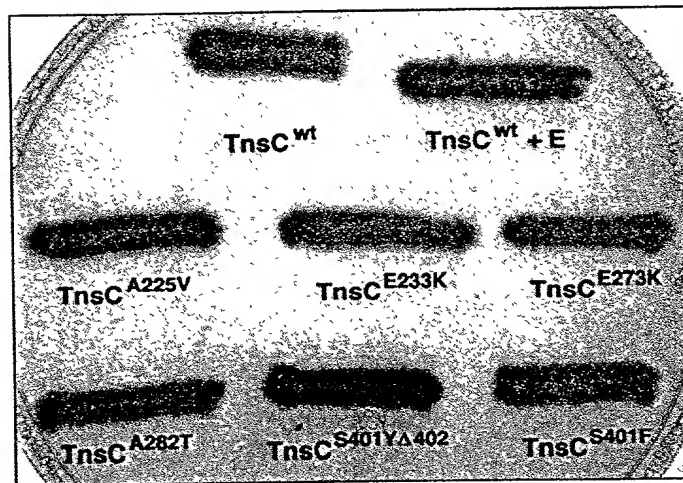


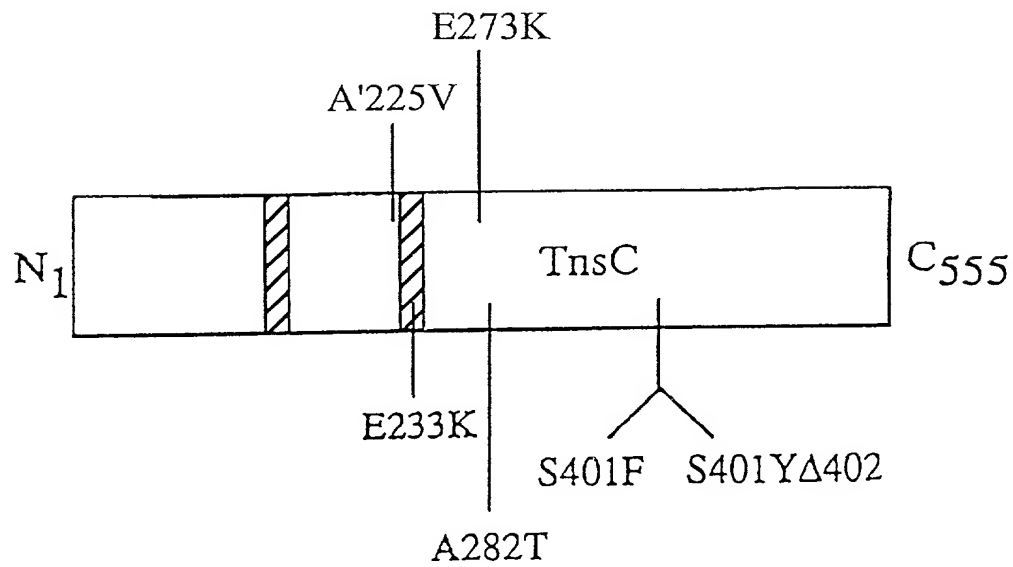
FIG. 1



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FIG. 2

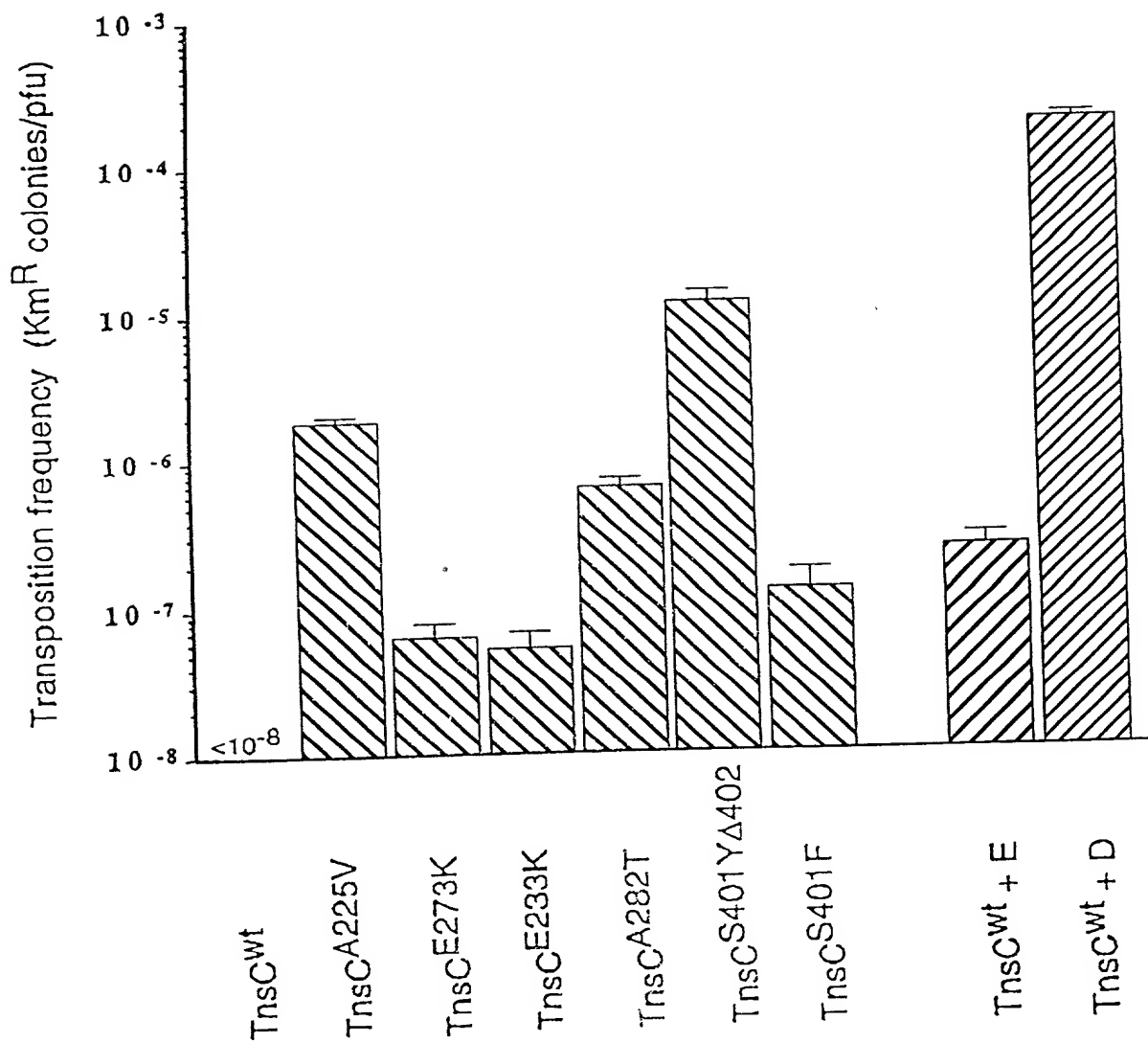
Class I TnsC mutants



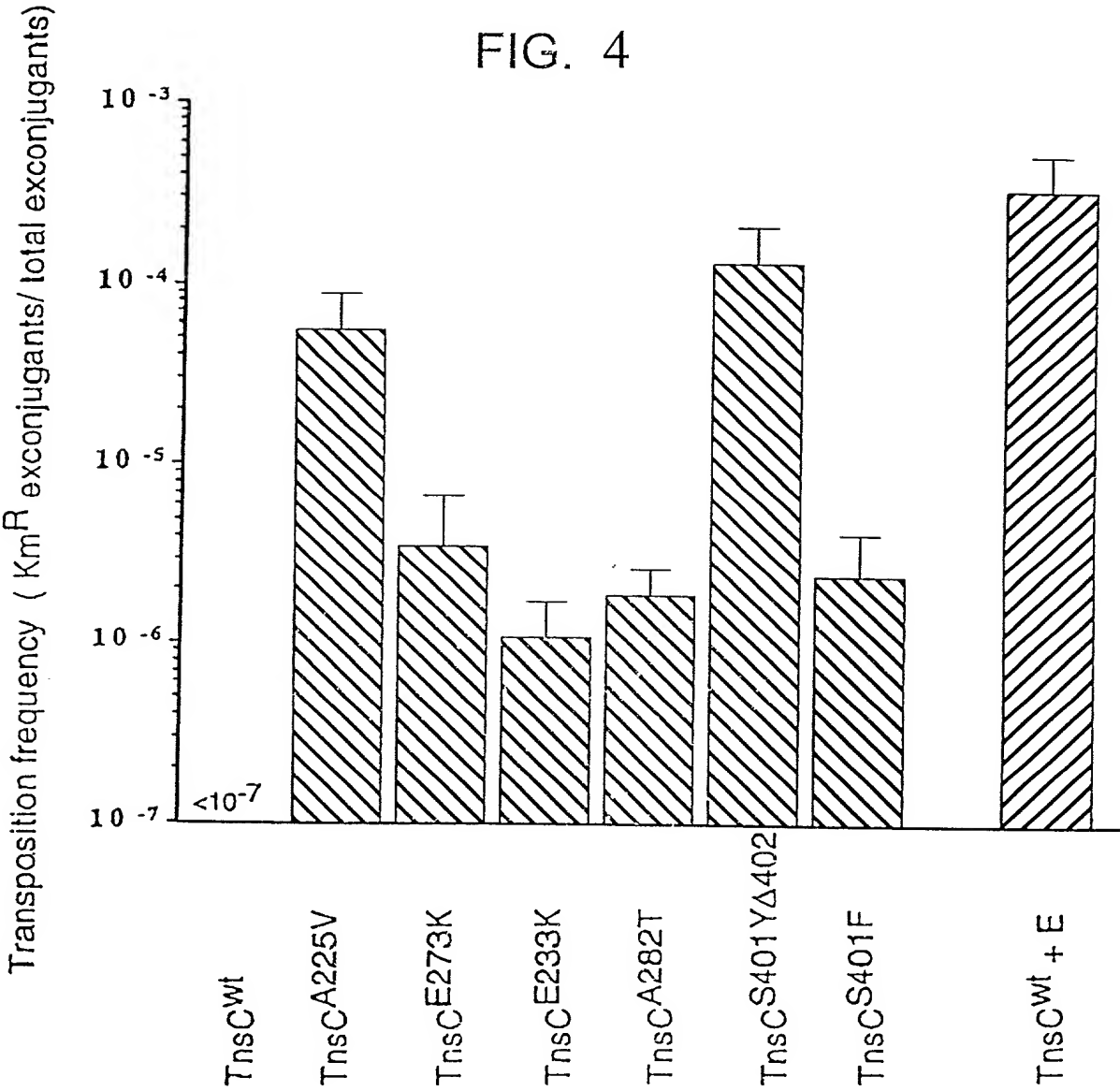
Class II TnsC mutants

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FIG. 3

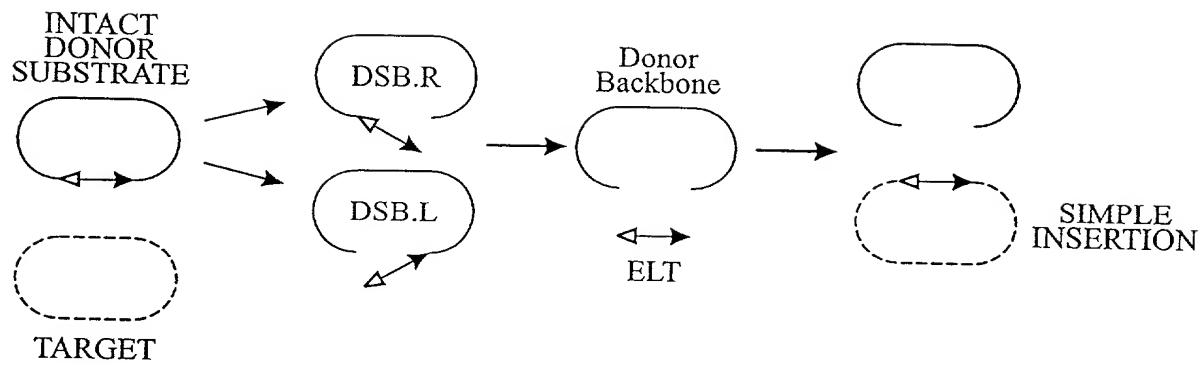


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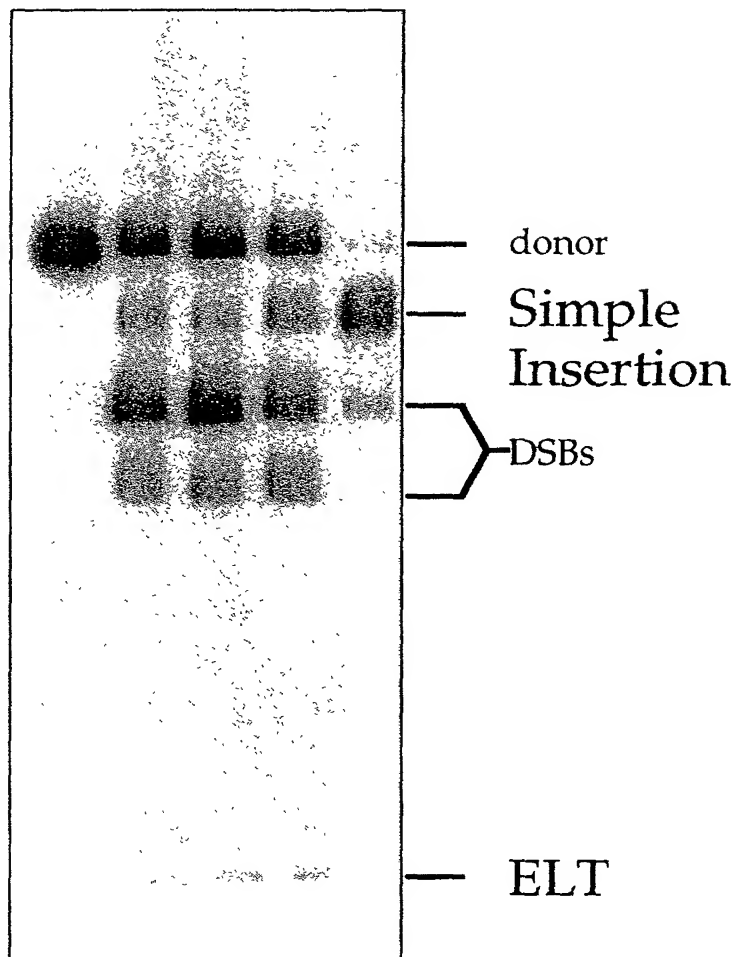
FIG. 5



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FIG. 6

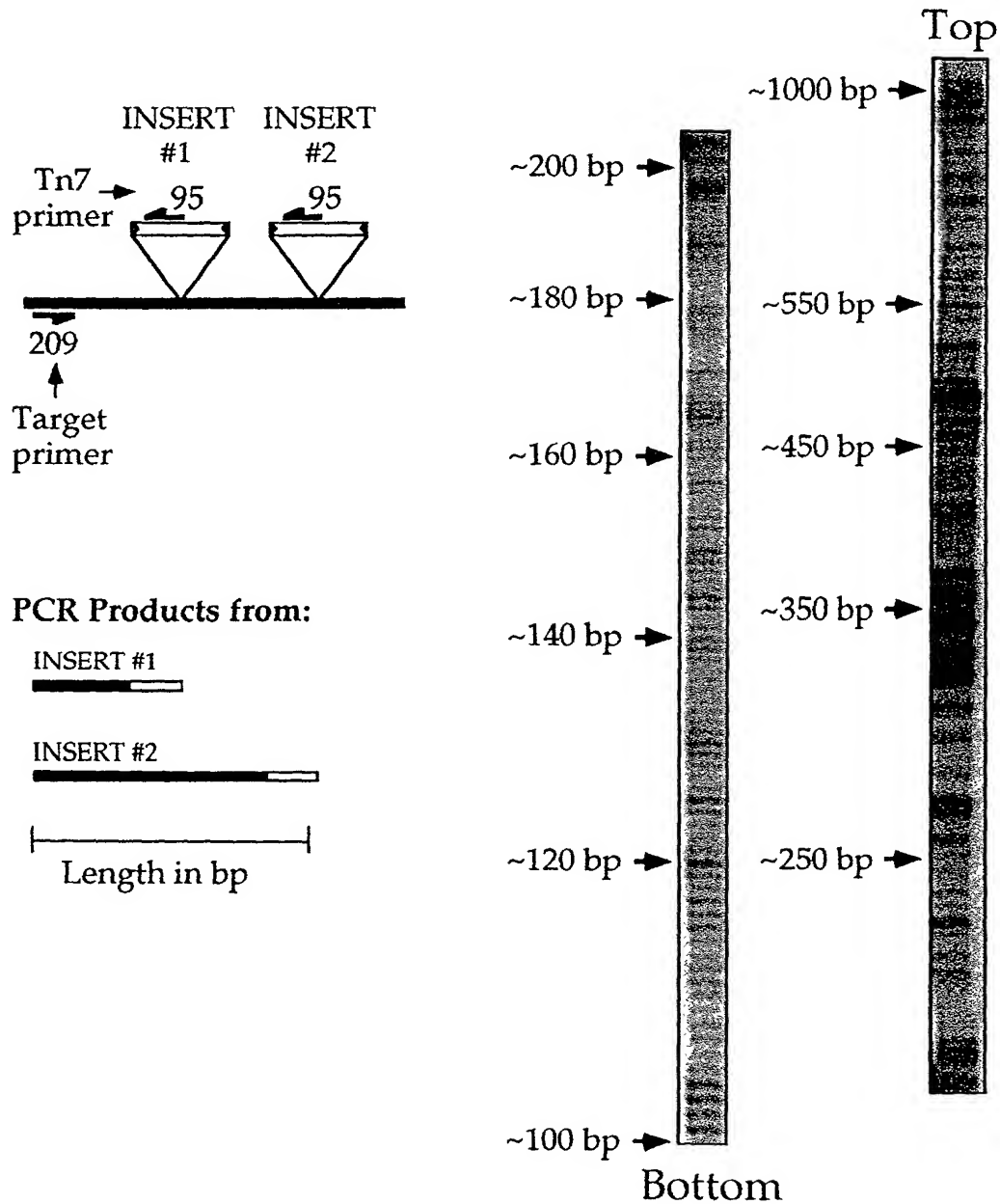
TnsA	+	+	+	+	+
TnsB	+	+	+	+	+
TnsC ^{wt}	-	+	-	-	-
TnsC ^{E233K}	-	-	+	-	-
TnsC ^{S401YΔ402}	-	-	-	+	-
TnsC ^{A225V}	-	-	-	-	+



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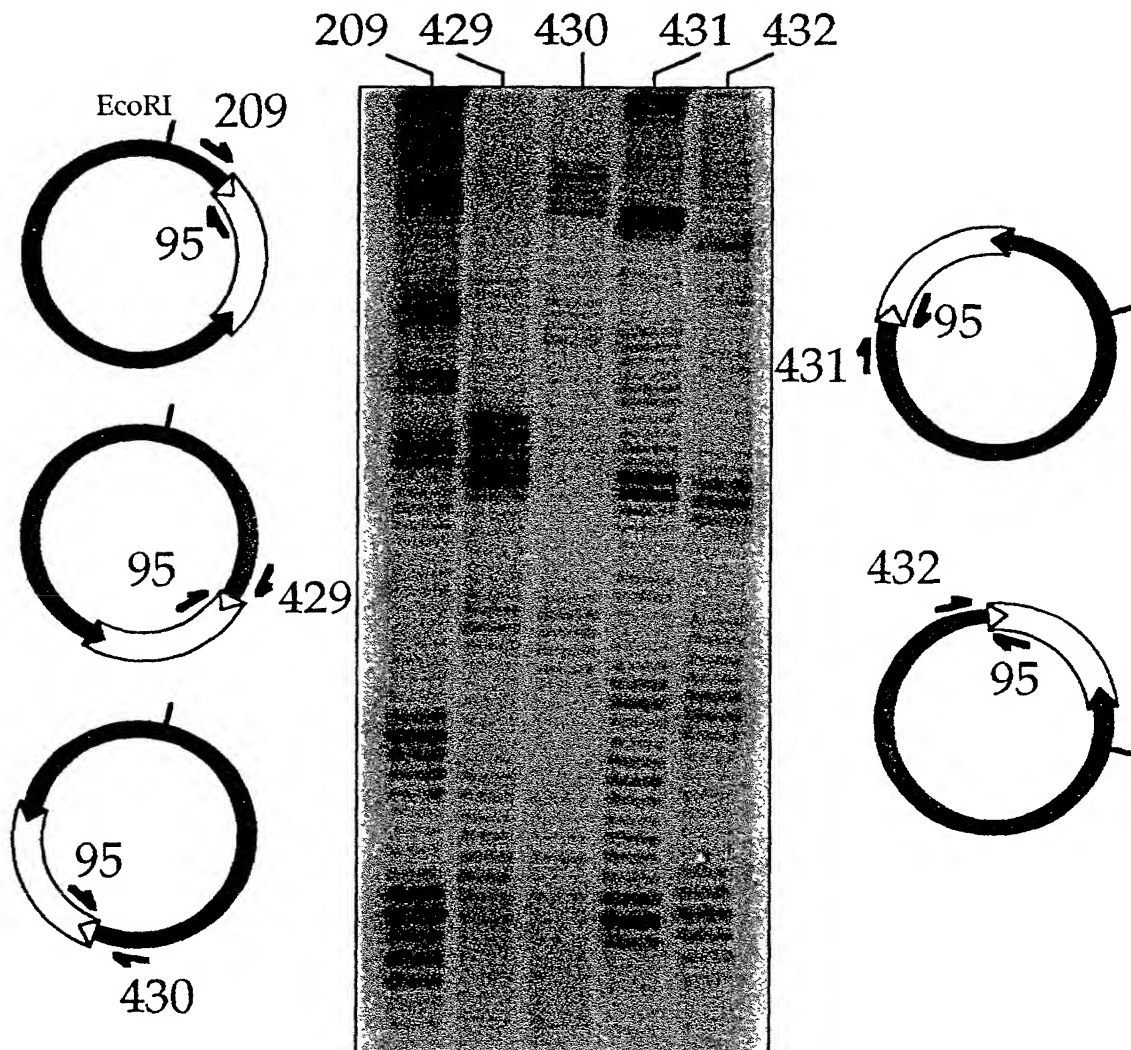
FIG. 7

Positions of TnsC^{A225V} Insertions



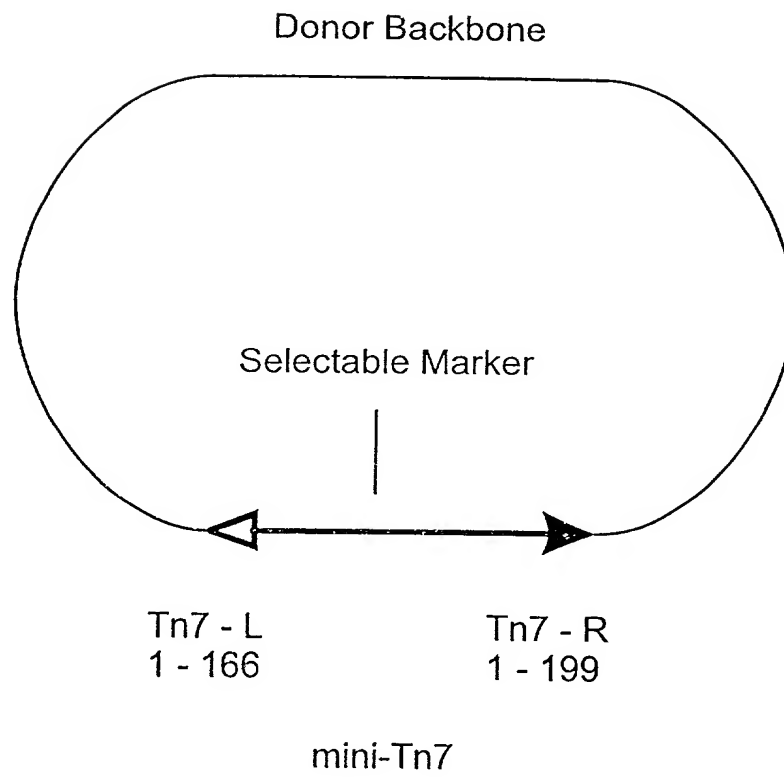
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FIG. 8



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FIG. 9A



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FIG. 9B

TTTAGAGCAATTCGGTGT TAGTTTCAGCAAGCAAACATTAACCATAGCTA
ATGATTTATAGCCATATTAACCATTGGGGTACCGAGCTCGAATTCCATGG
TCTGTTTTCCTGTGTGAAATTGTTATCCGCTCACAATTCCACACATTATAC
GAGCCGGATGATTAATTGTCAACAGCTCATTTTCAGAATATTTGCCAGAAC
CGTTATGATGTTCGGCGCAAAAAACATTATCCAGAACGGGAGTGC GCCTTG
AGCGACACGAATTATGCAGTGATTTACGACCTGCACAGCCATAACACAGC
TTCCGATGGCTGCCTGACGCCAGAAGCATTGGTGCACCGTGCAGTCGATG
ATAAGCTGTCAAACCAGATCAATTCGCGCTAACTCACATTAATTGCGTTG
CGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTA
ATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCCAGG
GTGCTTTTTCTTTTACCAGTGAGACGGGCAACAGCTGATTGCCCTTCAC
CGCCTGGCCCTGAGAGAGTTGCAGCAAGCGGTCCACGCTGGTTTGCCCCA
GCAGGCGAAAATCCTGTTTGATGGTGGTTGACGGCGGGATATAACATGAG
CTGTCTTCGGTATCGTCTGATCCCACTACCGAGATATCCGCACCAACGCG
CAGCCCGGACTCGGTAATGGCGCGCATTCGCGCCAGCGCCATCTGATCGT
TGGCAACCAGCATCGCAGTGGGAACGATGCCCTCATTCAGCATTTGCATG
GTTTGTGAAAACCGGACATGGCACTCCAGTCGCCTTCCCGTTCCGCTAT
CGGCTGAATTTGATTGCGAGTGAGATATTTATGCCAGCCAGCCAGACGCA
GACGCGCCGAGACAGAACTTAATGGGCCCCGCTAACAGCGCGATTGCTGG
TGACCCAATGCGACCAGATGCTCCACGCCAGTCGCGTACCGTCTTCATG
GGAGAAAATAATACTGTTGATGGGTGTCTGGTCAGAGACATCAAGAAATA
ACGCCGGAACATTAGTGCAGGCAGCTTCCACAGCAATGGCATCCTGGTCA
TCCAGCGGATAGTTAATGATCAGCCCACTGACGCGTTGCGCGAGAAGATT
GTGCACCGCCGCTTTACAGGCTTCGACGCCGCTTCGTTCTACCATCGACA
CCACCACGCTGGCACCAGTTGATCGGCGGAGATTTAATCGCCGCGACA
ATTTGCGACGGCGCGTGCAGGGCCAGACTGGAGGTGGCAACGCCAATCAG
CAACGACTGTTTGCCCGCCAGTTGTTGTGCCACGCGGTTGGGAATGTAAT
TCAGCTCCGCCATCGCCGCTTCCACTTTTTCCCGCGTTTTTCGCAGAAACG
TGGCTGGCCTGGTTTACCACGCGGGAAACGGTCTGATAAGAGACACCGGC
ATACTCTGCGACATCGTATAACGTTACTGGTTTTCACATTCACCACCCTGA
ATTGACTCTCTTCCGGGCGCTATCATGCCATAACCGCGAAAGGTTTTGCAC
CATTCGATGGTGTCAACGTAAATGCATGCCGCTTCCCTTCGCGCGCGAA
TTGATCTGCTGCCTCGCGGTTTTCGGTGATGACGGTGAAAACCTCTGACA
CATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGA
GCAGACAAGCCCGTCAGGGCGCGTCAGCGGTGTTGGCGGGTGTGCGGGC
GCAGCCATGACCCAGTCACGTAGCGATAGCGGAGTGATACTGGCTTAAC
TATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATAATGCGGTGTGA
AATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCTCTTCCG
CTTCCTCGCTCACTGACTCGCTGCGCTCGGTCTGTTCCGCTGCGGCGAGCG
GTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGA
TAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACC
GTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGAC
GAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG
ACTATAAAGATAACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTC
CTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCG
GGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGT
GTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGC
CCGACCGCTGCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGGTA

Sequence = 63842591

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FIG. 9B CONT-1

AGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG
AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACT
ACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA
GTTACCTTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCAC
CGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAA
AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCT
CAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGAGATTATCAAA
AAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTAAATCAA
TCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATC
AGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGC
CTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCTTACCATCTG
GCCCCAGTGCTGCAATGATACCGCGAGACCCACGCTCACCGGCTCCAGAT
TTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCC
TGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTA
GAGTAAGTAGTTTCGCCAGTTAATAGTTTGGCGAACGTTGTTGCCATTGCT
GTAGGCATCGTGGTGTCACGCTCGTCGTTTGGTATGGCTTCATTACGCTC
CGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAAA
AAGCGGTTAGCTCCTTCGGTCCCTCCGATCGTTGTCAGAAGTAAGTTGGCC
GCAGTGGTATCACTCATGTTTATGGCAGCACTGCATAATTCTCTTACTGT
CATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGT
CATCTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCA
ACACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCAT
TGGAACACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTTGA
GATCCAGTTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCT
TTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGC
CGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCT
TCCTTTTTTCAATATTATTTGAAGCATTATCAGGGTTATTGTCTCATGAGC
GGATACATATTTGAATGTATTTAGAAAAATAAACAAAAAGAGTTTGTAGA
AACGCAAAAAGGCCATCCGTCCAGGATGGCCTTCTGCTTAATTTGATGCCT
GGCAGTTTATGGCGGGCGTCCCTGCCCGCCACCCTCCGGGCGGTTGCTTCG
CAACGTTCAAATCCGCTCCCGGCGGATTGTCTACTCAGGAGAGCGTTT
ACCGACAAACAACAGATAAAACGAAAGGCCAGTCTTTCGACTGAGCCTT
TCGTTTTTATTGATGCCTGGCAGTTCCCTACTCTCGCATGGGAGACCCC
ACACTACCATCGGCGCTACGGCGTTTCACTTCTGAGTTCCGCATGGGGTC
AGGTGGGACCACCGCGCTACTGCCGCCAGGCAAATTCTGTTTTATCAGAC
CGCTTCTGCGTTCTGATTTAATCTGTATCAGGCTGAAAATCTTCTCTCAT
CCGCCAAAACAGCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCC
CCAAGAAAGTCCGTCGGACAGCTTTAATAAACCCCTGCACTTATCTGTTTA
GTGTGGGCGGACAAAATAGTTGGGAACCTGGGAGGGGTGGAAATGGAGTTT
TTAAGGATTATTTAGGGAAGAGTGACAAAATAGATGGGAACCTGGGTGTAG
CGTCGTAAGCTAATACGAAAATTAATAATGACAAAATAGTTTGGAACTAG
ATTTCACTTATCTGGTTGGTCGACCTGCAGGGGGGGGGGGGAAAGCCACG
TTGTGTCTCAAAAATCTCTGATGTTACATTGCACAAGATAAAAATATATCA
TCATGAACAATAAACTGTCTGCTTACATAAACAGTAATACAAGGGGTGT
TATGAGCCATATTCAACGGGAAACGCTTTGCTCGAGGCCGCGATTAAAT
CCAACATGGATGCTGATTTATATGGGTATAAATGGGCTCGCGATAATGTC
GGGCAATCAGGTGCGACAATCTATCGATTGTATGGAAGCCCGATGCGCC
AGAGTTGTTTTCTGAAACATGGCAAAGGTAGCGTTGCCAATGATGTTACAG
ATGAGATGGTCAGACTAACTGGCTGACGGAATTTATGCCTCTTCCGACC
ATCAAGCATTTTATCCGTACTCCTGATGATGCATGGTTACTCACCAGTGC
GATCCCCGGGAAAACAGCATTCCAGGTATTAGAAGAATATCCTGATTACG
GTGAAAATATTGTTGATGCGCTGGCAGTGTTCCTGCGCCGGTTGCATTG
ATTCTGTGTTGTAATTGTCCTTTTAACAGCGATCGCCTATTTTCGTCTCGC
TCAGGCGCAATCACGAATGAATAACGTTTGGTTGATGCGAGTGATTTTG

Sequence = 68842221

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FIG. 9B CONT-2

ATGACGAGCGTAATGGCTGGCCTGTTGAACAAGTCTGGAAAGAAATGCAT
AAGCTTTTGCCATTCTCACCGGATTTCAGTCGTCACCTCATGGTGATTTCTC
ACTTGATAACCTTATTTTTGACGAGGGGAAATTAATAGGTTGTATTGATG
TTGGACGAGTCGGAATCGCAGACCGATAACCAGGATCTTGCCATCCTATGG
AACTGCCTCGGTGAGTTTCTCCTTCATTACAGAAACGGCTTTTTTCAAAA
ATATGGTATTGATAATCCTGATATGAATAAATTGCAGTTTCATTTGATGC
TCGATGAGTTTTTCTAATCAGAATTGGTTAATTGGTTGTAACACTGGCAG
AGCATTACGCTGACTTGACGGGACGGCGGCTTTGTTGAATAAATCGAACT
TTTGCTGAGTTGAAGGATCAGATCACGCATCTTCCCGACAACGCAGACCG
TTCCGTGGCAAAGCAAAAGTTCAAAATCACCAACTGGTCCACCTACAACA
AAGCTCTCATCAACCGTGGCTCCCTCACTTTCTGGCTGGATGATGGGGCG
ATTCAGGCCTGGTATGAGTCAGCAACACCTTCTTCACGAGGCAGACCTCA
GCGCCCCCCCCCCCCCTGCAGGTCGACCCACGCCCCCTTTTAATACGACG
GGCAATTTGCACTTCAGAAAATGAAGAGTTTGCTTTAGCCATAACAAAAG
TCCAGTATGCTTTTTTCACAGCATAACTGGACTGATTTCACTTTACAACCTA
TTCTGTCTAGTTTAAGACTTTATTGTTCATAGTTTAGATCTATTTTGTTCA
GTTTAAGACTTTATTGTCCGCCCA

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FIG. 9C

pEM-delta -> List

DNA sequence 5926 b.p. CAGATCAATTGG ... AAGCTGTCAAC circular

pEM-delta

old name = mTm7.L166.R199

Thursday, January 9, 1992 10:58:46 PM

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101	CGCGCGGGAG	AGCGCGTTTG	CGTATTGGGC	GCCAGGGTGG	TTTTTCTTTT	CACACGTGAG	ACGGGCAACA	GCTGATTGCC	CTTCACCGCC	TGGCCCTGAG
201	AGAGTTGCAG	CAGAGCGTCC	ACGCTGGTGT	GCCTCAGCAG	GCGAAATCC	TGTTTGTATG	TGGTTGACCG	CGGGATATAA	CATGACGTGT	CTTCGGTATC
301	GTGCTATCCC	ACTACCGAGA	TATCCGCCAC	AACGCCGAGC	CGGCACTCGG	TAATGGCGCG	CATTGCGCCC	AGCGGCATCT	GATCGTTGGC	AAACGACATC
401	CGAGTGGGAA	CGATCCCTTC	ATTCCAGCAT	TGCATGGTGT	GTGTGAAACC	GGACATGGCA	CTCCAGTCCG	CTTCCCGTTC	CGCTATCGGC	TGAATTGTAT
501	TGCGAGTGAG	ATATTATATG	CAGCCAGGCA	CGCGCAGAGC	CGCCGAGACA	GAACCTTAAT	GGCCCGCTAA	CAGCGCGGAT	TGCTGGTGAC	CCAATGCCAG
601	CAGATGCTCC	ACGCCAGATC	CGGTACCGTC	TTCATGGGAG	AAAATAATAC	TGTTGATGGG	TGTCGTGTCA	GAGACATCAA	GAATAAACC	CGGAACATTA
701	GTGCGAGGAG	CTTCCACAGC	AATGGCATCC	TGGTCATCCA	GCGGATAGTT	AATGATCAGC	CCACTGACGC	GTTGCGCGAG	AAGATGTGTC	ACCGCGCGTT
801	TACAGGCTTC	GACGCGCTTC	CGTTCTACCA	TCGACACACC	CACGCTGGCA	CCCAGTTGAT	CGGCGGAGA	TTTATTCGCC	GGGACAAATT	GCGAGCGCGC
901	GTGCGAGGCC	AGACTGGAGG	TGGCAACGCC	AATCAGCAAC	GACTGTGTTC	CCGCCAGTTG	TGTGCGCACG	CGGTTGGGAA	TGTAATTCAG	CTCCGCCATC
1001	CGCGCTTCCA	CTTTTTCCTG	CGTTCCTGCA	GAACGCTGGC	TGGCTCGGTT	AATGATCAGC	GAACCGTCT	GATAAGAGAC	ACCGGCATAC	TCTGCGACAT
1101	CGTATAACGT	TACTGCTTTC	ACATTCACCA	CGCTGAATTG	ACTCTCTTCC	GGCGCTATC	ATGCCATACC	CGGAAAGGTT	TTCACCATTT	CGATGGTGTG
1201	AAGCTAAATG	CATGCCCGCT	CGCCTTCGCG	CGCGAATTGA	TCGTCTGCTT	CGCGCGTTC	GGTGTGACG	GTGAAACCT	CTGACACATG	CAGCTCCCGG
1301	AGACGCTCAC	AGCTTGTCTG	TAGCGGATG	CGCGGAGCAG	ACAAGCCGCT	CAGCGCGGCT	CAGCGGGTGT	TGGCGGGTGT	CGGCGCGCAG	CCATGACCCA
1401	GTCAAGTAGC	GATACGGGAG	TGTATCTGCG	CTTAACTATG	CGGCATCAGA	GCAGATTGTA	CTGAGAGTGC	ACCATATGCG	GTGTGAAATA	CCGACACAGT
1501	GGGTAAAGAG	AAATATCCGC	ATCAGGCGCT	CTTCGCTTTC	CTCGCTCACT	GACTCGCTGC	GCTCGGTCGT	TCCGCTCGCG	CGAGCGGTAT	CAGCTCACCT
1601	AAAGCGCGTA	ATACCGTTAT	CCACAGAACT	AGCGGATTAAC	CAGGAAAGA	ACATGTGAGC	AAAAGGCCAG	CAAAAGGCCA	GGAAACGTAA	AAAGGCCGCG
1701	GTCAAGTAGC	TTTTCCTTTC	TCTTCCTTTC	CGTCCGCCCT	CTCGAGAGC	TCAGCGCTCA	AGTCAGAGGT	GGCGAAACCC	GACAGAGACT	TAAAGATACC
1801	AGCGCTTTC	CGCTGGGAGC	TCCCTCGTGC	GCTCTCTGCT	TCCGACCCCT	CGCTTACCG	GATACCTTTC	CGCTTTCCT	CGCTTTCCT	CGCTTTCCT
1901	TTTCTATAGC	TCACGCTCTA	GCTATCTCAG	TTCCGTTAGT	ACGACTTATC	GCTCTCTGCT	CTGCTGTCAC	GAACCCCGCG	TTCAGCCGCA	CGCTTTCCT
2001	TTTCTATAGC	TGATCTCTCT	TGATCTCTCT	TCGCTTCTCT	ACGACTTATC	GCTCTCTGCT	CTGCTGTCAC	GAACCCCGCG	TTCAGCCGCA	CGCTTTCCT
2101	CGCGTGTCT	AGAGTTCCTG	AAGTGGTGGC	CTAACTACCG	CTACAGTAGA	AGGACAGTAT	TTGTTATCTG	CGCTTTCCT	AAGCCAGTTA	CGCTTTCCT
2201	AAGAGTTGCT	AGCTCTTCTG	CGGCAAAACA	AACCAACCGT	GCTAGCGGTC	CTTCTTCTCT	TTGCAAGCAG	CAGATTACGC	CGAGAAAAAA	AGGATCTCAA
2301	GAAGATCTCT	TGATCTCTCT	TACGGGCTCT	GAGCTCTCTG	GGAGCGAAAA	CGTCTCTCT	GCTCTCTCT	TTACCAATGC	TTAATCAGTG	AGGCACTTAT
2401	AGATCTCTCT	AAATTAATAA	TGAAGTTTTC	AATCAATCTA	AAGTATATAT	TGATAGTATC	TACGATACCG	GAGGCTTAC	CATCTGCGCC	CAGTCTCTCA
2501	CTCAGCGATC	TGCTATCTCT	GTTCATCCAT	AGTTGCTCTG	CTCCCGCTCG	CATGTTATAT	GCAGCACTGC	AGGCGAGAGG	TGCTCTCTCA	ACTTTATCTG
2601	CTCAGCGATC	GAGACCCAGC	CTCAGCGGCT	CCAGATTATAT	CAGCAATAAA	CGTCTCTCT	TTGCAAGCAG	CAGATTACGC	CGAGAAAAAA	AGGATCTCAA
2701	CTCAGCGATC	GTCTATTAAT	TGTTGCGCGG	AAGCTAGAGT	AAGTATATAT	CGATTTAATA	GTTCGCGCAA	CGTGTGTGCG	ATGCTGTAGT	GCATCGTGGT
2801	GTCCAGCTCG	TCGTTTGGTA	TGGCTTCTAT	CAGCTTCCGT	TCCCAACGAT	CAAGCGAGT	TACATGATCC	CCCATGTTGT	GCAAAAAAGC	GCTTAGCTCC
2901	GTCCAGCTCG	AGCTAGCTGT	CAGAAGTAAG	TGGCGCGGAG	TGTTATCACT	CATGTTATAT	GCAGCACTGC	ATATCTCTCT	TACTGTCTCT	ACAAACACAG
3001	GATGCTTCT	TGTAAGCTGT	GAGTACTCAA	CCAAGTCAAT	CTGAGATAG	TGTAAGCTGT	GACCGAGTTC	CTCTGCGCG	CGCTTCTCT	CGCTTCTCT
3101	CGCGCCACAT	AGCAGAACTT	TAAAGTCTCT	CATCATTGGA	AAACGTTCTT	CGGCGCGAAA	ACTCTCAAGG	ATCTTCTCT	TGTTGAGATC	CAGTTGCGAT
3201	TAAACGCTCT	GTGACCTCTA	CTGATCTCTA	GCATCTTTTA	CTTTCACGAG	CGTCTCTCT	TGAGCAAAAA	CAGGAGGCGA	AAATGCGCGA	AAAGAGGGAA
3301	TAAAGGCGAC	ACGGAATATG	TGAATACTCA	TACTCTTCTT	TTTTCATAT	TATTAAGACA	TTTATCAAGG	TTATGCTCT	ATGAGCGGAT	ACATATTGTA
3401	ATGTAATTAG	AAAAATAAAC	AAAAAGAGTT	TGTAGAAAGC	CAAAAAGGCC	ATCCGTCAGG	ATGCGCTTCT	GCCTTAATTT	ATGCGTGGCA	GTTTATGGCG
3501	GGCGCTCTCG	CGCGCCCGCT	CGTCTGCAAC	GTTCAAAATC	GTCTGATGTT	CTCTGATGTT	ACATGTCACA	AGATAAAAT	ATATCATCAT	GAACAATAAA
3601	GATAAAACGA	AAGGCCAGT	CTTTCGACTG	AGCCTTTCGT	TTTATTTGAT	CGCTGCGAGT	TCCCTACTCT	CGCATGGGGA	GACCCACAC	TACCATCGGC
3701	GCTACGCGCT	TTCATCTCTG	AGTTCGGCAT	GGGTCAGGCT	GGGACACCG	CGCTACTGCG	GCCAGGCAAA	TTCTGTTTTC	TACAGCCGCT	TCTGCGTCTT
3801	GATTTAATAT	GTATCAGGCT	GAAAATCTTC	TCTCATCCCG	CAAAAACAGCC	AAGCTTGCAT	GCTTGCAGGT	CGACTCTAGA	GGATCCCCAA	GAAAGTCCGT
3901	CGGACAGCTT	TAATAAACCC	TGCATTTATC	TGTTTAGTGT	GGCGGACAA	AATAGTTGGG	AACGCGGAGG	GCTGGAATG	GAGTTTTCAT	GGATTATTTA
4001	GGGAGAGGTG	ACAAAATAGA	TGGGAACCTG	GTTAGGCTTC	GTAAGCTAAT	ACGAAAATTA	AAAATGACAA	AATAGTTTGG	AATAGATTTC	CACATTATCT
4101	GTGTGCTGAC	CTGCGAGGCG	GGGCGGAAAC	GCCACGTTGT	GTCTCAAAAT	CTCTGATGTT	ACATGTCACA	AGATAAAAT	ATATCATCAT	GAACAATAAA
4201	ACTGTCTGCT	TACATAAACA	GTAATACAAG	GGTGTGATG	AGCCATATTC	AACCGGAAAC	GTCCTGCTCG	AGGCGCGGAT	TAAATTCCAA	CATGATGCTT
4301	GATTTATATG	GGTATAAATG	GGCTCGGAT	AATGTCGGGC	AATCAGGTGC	GACAATCTAT	CGATTGTATG	GGAAAGCCGA	TGCGCCAGAG	TTGTTTCTGA
4401	AACATGCGAA	AGCTAGCGTT	GCCAATGATG	TTACAGATGA	GATGGTCAGA	CTAAACTGGC	TGACGGAATT	TATGCTCTCT	CCGACCATCA	AGCATTTTAT
4501	CGGTACTCTT	GATGATGCTT	GGTTACTCAC	CAGTGGATC	CCCGGGAATA	CAGCATTOCA	GCTATTAGAA	GAAATCTCTG	ATTCAGGTGA	AAATATTGTT
4601	GATGCGCTCG	CAGTGTTCCT	GGCGCGGTTC	CATTGATTC	CIGTTTGATA	TGCTCTCTTT	AACAGCGATC	CGGTATTTCG	TCTGCTCTAG	GGGCAATCAC
4701	GAATGAATAA	CGGTTTGGTT	GATGCGAGTG	ATTTTGTATG	CGAGCGTAA	GGTCTCTCT	TTGAAACAAG	CTGGAAGAAA	ATGCAATAGC	TTTTCGCAAT
4801	CTCAGCGGAT	TCAGTCTGTA	CTCATGGTGA	TTTCTCACTT	GATAACCTTA	TTTCTCTCT	TTTCTCTCT	TTTCTCTCT	TTTCTCTCT	TTTCTCTCT
4901	ATCGCGGATC	GATACAGAGA	TCTTGCATTC	CTATGGAAT	GCCTCGGTGA	GTCTCTCTCT	TCATTACAGA	AACGCGTTTT	TCAAAATAT	GGTATTGATA
5001	ATCTCGTATG	GATTAATATG	CAGTTTCAAT	TGATGCTGTA	TGAGTTTTC	GGATCAGATC	AGCGATCTTC	CCGACAAACG	AGACCGTTCC	GTGGCAAAAG
5101	TTGACGGGAC	GGCGGCTTTC	TGGAATAAAT	CGAATTTTTC	CTGAGTTGAA	CTGAGCTTCC	TCATTTCTTC	GCTGGATGAT	GGGCGGATTC	AGGCGTGGTA
5201	AAAAGTTCAA	AATCACCACG	TGGTCCACCT	ACAACAAAGC	TCTCATCAAC	CTGAGCTTCC	ACCCCAACGC	CCCTTTTAT	CCGACCGGCA	ATTTCACATT
5301	TGAGTCAGCA	ACACCTCTCT	TTAGCCATPA	CAAAAGTCCA	GTAATGCTTT	TCACAGCATA	ACTGGACTGA	TTTCAGTTTA	CAACTATCTT	GTCTAGTTTA
5401	CAGAAAATGA	AGAGTTTTC	ATGATGTTTC	TGTTCACTTT	AAGACTTTAT	TGTCGCGCCA	CATTAGAGAG	AATTCGGTGT	TAGTTTTCAG	AAGCAACAT
5501	AGACTTTTAT	GTATAGTTTC	TAGCATATTT	AACCATTTGG	GTACCCAGCT	CGAATTTCCAT	GGTCTGTTTC	CTGTGTGAAA	TGTATATCCG	CTCACCAATC
5601	TAAACATATG	ACGAGCCGGA	TGATTAATTT	TCAACAGCTC	ATTTCAGAA	ATTTGCCAGA	ACCGTTATGA	TGTCGCGCGA	AAAAACATTA	TCCAGAACCG
5701	CACACATTTT	ACGAGCCGGA	TGATTAATTT	TCAACAGCTC	ATTTCAGAA	ATTTGCCAGA	ACCGTTATGA	TGTCGCGCGA	AAAAACATTA	TCCAGAACCG
5801	GAGTGGCGCT	TGAGCGACAC	GAATTAATGA	GTGATTTACG	ACCTGCACAG	CCATACACAA	GCTTCCGATG	GCTGCTGAC	GCCAGAGCA	TTGGTGCACC
5901	GTGCGAGTGA	TGATAGCTG	TCAAAAC							5926

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FIG. 10A

GAATTCCGGATGAGCATTTCATCAGGCGGGCAAGAATGTGAATAAAGGCCG
GATAAAACTTGTGCTTATTTTCTTTACGGTCTTTAAAAGGCCGTAATA
TCCAGCTGAACGGTCTGGTTATAGGTACATTGAGCAACTGACTGAAATGC
CTCAAAATGTTCTTTACGATGCCATTGGGATATATCAACGGTGGTATATC
CACTGATTTTTTTCTCCATTTTAGCTTCCTTAGCTCCTGAAAATCTCGAT
AACTCAAAAAATACGCCCCGGTAGTGATCTTATTTTCATTATGGTGAAAGTT
GGAACCTCTTACGTGCCGATCAACGTCTCATTTTCGCCAAAAGTTGGCCC
AGGGCTTCCCGGTATCAACAGGGACACCAGGATTTATTTATTCTGCGAAG
TGATCTTCCGTCACAGGTATTTATTTCGGCGCAAAGTGCGTCGGGTGATGC
TGCCAACTTACTGATTTAGTGATGATGGTGTTTTTGAGGTGCTCCAGTG
GCTTCTGTTTCTATCAGCTGTCCCTCCTGTTTCAGCTACTGACGGGGTGGT
GCGTAACGGCAAAAGCACCGCCGGACATCAGCGCTAGCGGAGTGATACT
GGCTTACTATGTTGGCACTGATGAGGGTGTGAGTGAAGTGCTTCATGTGG
CAGGAGAAAAAAGGCTGCACCGGTGCGTCAGCAGAATATGTGATACAGGA
TATATTCCGCTTCTCGCTCACTGACTCGCTACGCTCGGTGCTTCGACTG
CGGCGAGCGGAAATGGCTTACGAACGGGGCGGAGATTTCTGGAAGATGC
CAGGAAGATACTTAACAGGGAAGTGAGAGGGCCGCGCAAAGCCGTTTTT
CCATAGGCTCCGCCCCCTGACAAGCATCACGAAATCTGACGCTCAAATC
AGTGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTG
GCGGCTCCCTCGTGCGCTCTCCTGTTCTCCTGCTTTCGGTTTACCGGTGTC
ATTCCGCTGTTATGGCCGCGTTTGTCTCATTCACGCCTGACACTCAGTT
CCGGGTAGGCAGTTTCGCTCCAAGCTGGACTGTATGCACGAACCCCCCGTT
CAGTCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCC
GGAAAGACATGCAAAAGCACCCTGGCAGCAGCCACTGGTAATTGATTTA
GAGGAGTTAGTCTTGAAGTCATGCGCCGGTTAAGGCTAAACTGAAAGGAG
AAGTTTTGGTGACTGCGCTCCTCCAAGCCAGTTACCTCGGTTCAAAGAGT
TGGTAGCTCAGAGAACCTTCGAAAAACCGCCCTGCAAGGCGGTTTTTTCG
TTTTTCAGAGCAAGAGATTACGCGCAGACCAAAACGATCTCAAGAAGATCA
TCTTATTAATCAGATAAAATATTTCTAGATTTTCAGTGCAATTTATCTCTT
CAAATGTAGCACCTGAAGTCAGCCCCATACGATATAAGTTGTAATTCTCA
TGTTTGACAGCTTATCATCGGATGGATCTGAAATTGTAAACGTTAATATT
TTGTTAAATTTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAAACCA
TAGGCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGAT
AGGGTTGAGTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACG
TGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGCGCCA
CTACGTGAACCATCACCCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAA
AGCACTAAATCGGAACCTAAAGGGAGCCCCGATTTAGAGCTTGACGGG
GAAAGCCGGCGAACGTGGCGAGAAAGGAAGGGAAGAAAGCGAAAGGAGCG
GGCGCTAGGGCGCTGGCAAGTGTAAGCGGTACGCTGCGCGTAACCACCAC
ACCCGCCGCGCTTAATGCGCCGCTACAGGGCGCGTCAGATCCCATCGATA
AGCTTTAATGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGGCA
CCGTGTATGAAATCTAACAATGCGCTCATCGTCATCCTCGGCACCGTCAC
CCTGGATGCTGTAGGCATAGGCTTGGTTATGCCGGTACTGCCGGGCCCTCT
TGCGGGATATCGTCCATTCCGACAGCATCGCCAGTCACTATGGCGTGCTG
CTAGCGCTATATGCGTTGATGCAATTTCTATGCGCACCCGTTCTCGGAGC
ACTGTCCGACCGCTTTGGCCGCCGCCAGTCCTGCTCGCTTCGCTACTTG
GAGCCACTATCGACTACGCGATCATGGCGACCACACCCGTCCTGTGGATC
CGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCA
GGGTTTTCCAGTCACGACGTTGTAAAACGACGGCCAGTGAATTGCGGCC
GCCCTGCAAGGAAGGGAATGTGCGCAACAGCGAAGAGAGTTGGGCAACGG
ATGTGCTGGTGGAGGTGATCGCCTCCTGATGATGAGCCGCTCCCGATGTG

Sequence = 634666

15/27

FIG. 10A (CONT)-1

GTGTCGGGAGCGGTATTTTCTATAAACTTACCGCTTATTTGAGATATTC
ATCGAAAATGTCGAGTAATTCTTGATGTATACACGGCCATTCTTGACCTA
AATTGACGGTACACAAGCCAATATCGAAGCCATTAATTTTATAACGATGT
TTCACCTGCGGTATCTACGTGGGGATATATTAATAACCCCCCTATGTTTTTC
GCCATTTTTCAGGCTTTAACGACCATAAGTAATTCATCAGTTGATAAAGAT
TTTGCGAATGAAATTTTCTGTTCCCATTCGTCGTGAAAAATGCTCTTA
TAGTATTTGGCGTCAACGATAAGTATTTTTTCTGATGAGCGAATGGTGAT
GTCAGTTTCCATTTCGAGGTAACAAATTAAGTGACTGATCCGATATACTCG
ATGCATCCCATTTTAAATAAGAGCGGGTTGTGTTTGCAGACGTTAATTCA
CGACGGCAAAATTCATAAAGAACTTTTGATAAAGTAATGACATCTCTTT
TTCGTTTCTTTCAAATCATAGAAACGGTAGTGTCTTTGTTTTTGACCTG
GAATAGAATTATTGACGATGAATTTGCAGACACTGATAACGAATTTATAA
TAACGCGTATTTTTTCCGCCATTTCAGATAGCTGAAATGCTGCGGAGTTAA
ATGAAGAGTGCTAATGCCCCGTAATTTTCTATAAAGTGAACGAGCTTCAT
CTCTGATAGTTGAATTTAACTTTTCATGCTTAATTAATATGGCTAATGTG
CTTTTTTATAATTCGGTTAGCCAGCGTGTCTTCATTAAGCATATCAAAAGT
ACTGACGGTTTTCCCATGATTAAGATGGAAGCCGCGTATTGTTTTAGCAA
ACTCTATTCGCCCTTTGATGCCAGGAATGATCTCGGTGTTAGGATTGTAA
TCAAGCTCAAGCCCTCGGCGTGAAAGCTGTAAAACCCCTTTATTTAATAC
ATACCCAGGATATCAAGAAGATTGTTACCGGGTATGGCTTCAAGGTTTG
CCTGCTTAATTTCTGTAAATAACCCCATGCATAGGTAAGCATGTAATAG
ATATTACGGACAGGTATCACGGGCTGTTCCACTATGAGTCCCCCTAATAAT
TTGTTGGTCCATTTCTGTTGTTTATAGGGGTCATCAAAGAAATATTCTTC
GAGTAAAGGGGCGATATCCGTCATCACAATTTTATTAAAGCCATTGCGTAT
CCGGAGAGGTGCCATCTTCCAACCCACAGCAGAAGTAACTATGCCCAATG
CGGAATCCTTTCCCAAGGATAGTGGCCTCTTTGCTGATTTCTGCTTTTCA
CTCGTTCATTTTTTGGCATAAAGACTCAACAAATGAAGGTTCTGCTTTTT
TATTCAGTAAAAAATTCCGGAACGTGTGGTGTATCAAAACCTGGCTCAATA
TCTATGAAAGAAAATCGTCTGCGTAGGGCATAGTCAACAACGGCCAGAGA
GCGATCGGCAGTATTCATTAAACCGATGATATAAACATTCTCCGGGACAT
AGAATCGTTCTTCATCGTTTTTCGGAGTAGGTTAGGGGAACAGACCAGTTT
TCACCTCGTTTATCATGTTCCATTAAACATCATCACTTCGCCAAATACTTT
ACTGAGATTGGCACGATTGATTTCTATCTATAATAAAAAATATACTTTTTCT
CTGGCTGCTCTTTAGCTTGCTGACAAAAATTGTAAAAATATGCCGCTTTA
CGTCGGAAGCCGACGCCATTTCGGACGATAGCCCTGTATAAAATCCTCATA
GCTATAAGATTGATGGAACCTGAACCATATTGACGCGTTGCGGAGCCTTTT
CTCCTGTCAGCAAGTAAGCCAGACGGCGTGCAACAAAGGTTTTTCCAACG
CCJGGCGGCCCCCTGGAGGATAATATTTTTTTTGATGGTTAATCGTTTGAG
TATCGTCTCTATTGTGGTTTCAGGGATAAACAATCATTTAACGCATCTT
CCAGACAGTATGATTCAGTTTTTGACATAGGTGGAATAACACTCTTGCCA
GAATTAAATATTAATTTATAGTCGTTGATTATGTTGTCCAGCATAGAGGC
AAATCGGGTGTAATCAATACCCTGTGAGACTTTTTTGGGAACAGGCGTAAT
AGGACTGTCCGTATTTTTTAGGATATACACCCGAAGTTGCCTGAAAATAC
TCTGCGATTGTTTTAGGTATGTCTGAAGAGAAGTCCATTGGGCATGTGG
TTCATTTCGTGTCGCTTATACCATAAGCCAAAACCAACTCATCAAAATCTT
TATAATAGAGAATAACGGGATATATACCGTTAGAAGCTTCTTGACCTTCT
CCAAGAAATGCAAAACAGGGAATAGACGTAAAATTACCATAACCGAACT
CAATTTTACTCGCAGGTTACGGTAAGACGTTGGATAATCTTTAGTGGATT
GCGAACGTTGTTGCTGTGCTTGCTTAATAAATTTTTCAATCCAGGGTTGA
ATAGATTCCATAAGATATGCCTTCCTCATTGCTAAGCCTCTATTATCGCT
TTCGCAACGTAAGTGAACAAATAGATTTTTTACTGCAAAATCAGACTGGTAA
ATATTTACTGAGGGGGAAAGTTTCTATTGAGTCAGTGAAGGCTCCCGGT
GGTTAACCGGGAGTAAACGCTGTTACGCGACTTCTGTTTACCGGCAATC
ACTCCAATAAACGCCTGCACCTGCTTTTGTGTTACGCGCCGACAGTTTGCA

106161 = 6042001

FIG. 10A (CONT)-2

CACCTGGCGTAGCGACTGCATCAGTTCGCTCTCCTCGGCGGCGGGTGGTT
GGGCGGTGAGGACAATACAGCCTTCCATCACTTTGACATCTACCGCCGTG
CCAGTGGCAAAACCGGCGGCTTCCAGCCACTGACCTTTCAGGGTGATGGC
GGGAATACGGCTGTAATCCGGGTAGCGACTCGCATAACCGACGGTGACAT
GACGGTTATTTGCCGGGAGACTTCTGCTTCGAACGGTTGTGCAATAGAA
TGCGTGTCACTCATAACTGCTATTCTCCAGGAATAGTGATTGTGATTAGC
GATGCGGGTGTGTTGGCGCACATCCGCACCGCGCTAAATACCTGTATATA
TCATCAGTAAATATGGGGAAAGTCCAGCTAAAAATAGAATAAAATGGGCA
ATTTCTGGAATGATTTAAATATATTTATGTGGGTTATGATTGGCGTGAAA
TAATAAAAAGCGCACCGGAAAGGTGCGCCAGAAAATAATGTTCAAGATTT
TTTACGTGAGGCTTTTTTACCCCGCTAGCTGCGCGTTTCACTTTGATTT
TTTCCAGCAACCGCGCGCTGTTTTCTCCGCTGATCAAATCCGGGTTT
TCGGCCCGCCACTGGGCGGTAAAGTTCACCACGGAACGCTTTTGCCAGGAT
GGATTGCGTCAGGTTGTTGACGCGGGCTAAGGCGTTGTTGACCTGTTTTT
CTATGGTGTGCGCGTAGGCGAAGAGTTGCTCGACGCGGCGAACGATTTTCG
GCTTGTTCTTTTACTGGAGGTAATAAAACAACCTGGGATTTGATATCTTT
TCCTGAAATACCTTTTTGACCAGAAGTTGTTTTACGCGAGTTCATCATTG
CATTTCGTGCTGAGGGGGATGAAAAAATATTTGATATATTCTGGTAA
GCATCTTTGGTTAATCGAGCTCGAATAAGTTTATCAGGATATAGCAAAT
TTGATGTTGTAATTTTTTCAATAACCCACAAACACCAACAAATTTCTAAC
TTCCGTTATAGCGAGTAAATAAAAGATCTCCATCTTGTAATTTGTGGCGG
TTAGTTCACTTTCTGAACATTCTAGAGTCGACCTGCAGGCATGCAAGCT
TGGCGTAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTC
ACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGG
TGCCTAATGAGTGAGCTAATCACAATTAATTGCGTTGCGCTCACTGCCCG
CTTTCAGTCGGGAAACCTGTCGTGCCAGCGGATCCTCTACGCCGGACGC
ATCGTGGCCGGCATCACCGCGGCCACAGGTGCGGTTGCTGGCGCCTATAT
CGCCGACATCACCGATGGGGAAGATCGGGCTCGCCACTTCGGGCTCATGA
GCGCTTGTTTCGGCGTGGGTATGGTGGCAGGCCCCGTGGCCGGGGGACTG
TTGGGCGCCATCTCCTTGATGCACCATTCCTTGCGGCGGCGGTGCTCAA
CGGCCTCAACCTACTACTGGGCTGCTTCCTAATGCAGGAGTCGCATAAGG
GAGAGCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCAGCTCCTTC
CGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTT
TATCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTGGGTCATTTTCG
GCGAGGACCGCTTTGCTGAGCGCGACGATGATCGGCCTGTGCTGTTGCG
GTATTTCGGAATCTTGACGCCCCCTCGCTCAAGCCTTCGTCACTGGTCCCGC
CACCAAACGTTTCGGCGAGAAGCAGGCCATTATCGCCGGCATGGCGGCCG
ACGCGCTGGGCTACGTCTTGCTGGCGTTGCGGACCGAGGCTGGATGGCC
TTCCCCATTATGATTTCTTCTCGCTTCGGCGGCATCGGGATGCCCCGCTT
GCAGGCCATGCTGTCCAGGCAGGTAGATGACGACCATCAGGGACAGCTTC
AAGGATCGCTCGCGGCTCTTACCAGCCTAACTTCGATCATTGGACCGCTG
ATCGTCACGGCGATTTATGCCGCTCGCGGAGCACATGGAACGGGTTGGC
ATGGATTGTAGGCGCCGCCCTATACCTTGCTGCTCCCCGCGTTGCGTC
GCGGTGCATGGAGCCGGGCCACCTCGACCTGAATGGAAGCCGGCGGCACC
TCGCTAACGGATTCAACACTCCAAGAATTGGAGCCAATCAATTCTTGGCG
AGAATCTGTGAATGCGCAAACCAACCCTTGGCAGAACATATCCATCGCGTC
CGCACTGTCCAGCAGCCGCACGCGGCGCATCTCGGGCAGCGTTGGGTCCT
GGCCACGGGTGCGCATGATCGTGCTCCTGTGCTTGAGGACCCGGCTAGGC
TGGCGGGGTTGCTTACTGGTTAGCAGAATGAATCACCGATACGCGAGCG
AACGTGAAGCGACTGCTGCTGCAAAACGTCTGCGACCTGAGCAACAACAT
GAATGGTCTTCCGTTTCCGTGTTTTCGTAAAGTCTGGAAACGCGGAAGTCC
CCTACGTGCTGCTGAAGTTGCCCGCAACAGAGAGTGGAACCAACCGGTGA
TACCACGATACTATGACTGAGAGTCAACGCCATGAGCGGCCTCATTTCTT
ATTCTGAGTTACAACAGTCCGCACCGCTGCCGGTAGCTCCTTCCGGTGGG

Sequence = 639304

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FIG. 10A (CONT)-3

CGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCATG
CAACTCGTAGGACAGGTGCCGGCAGCGCCCAACAGTCCCCCGGCCACGGG
GCCTGCCACCATAACCCACGCCGAAACAAGCGCCCTGCACCATTATGTTCC
GGATCTGCATCGCAGGATGCTGCTGGCTACCCCTGTGGAACACCTACATCT
GTATTAACGAAGCGCTAACCGTTTTTATCAGGCTCTGGGAGGCAGAATAA
ATGATCATATCGTCAATTATTACCTCCACGGGGAGAGCCTGAGCAAACCTG
GCCTCAGGCATTTGAGAAGCACACGGTCACACTGCTTCCGGTAGTCAATA
AACCGGTAAACCAGCAATAGACATAAGCGGCTATTTAACGACCCTGCCCT
GAACCGACGACCGGGTCTGAATTTGCTTTCTGAATTTCTGCCATTTCATCCGC
TTATTATCACTTATTCAGGCGTAGCAACCAGGCGTTTAAGGGACCAATA
ACTGCCTTAAAAAAATTACGCCCCGCCCTGCCACTCATCGCAGTACTGTT
GTAATTCATTAAGCATTCTGCCGACATGGAAGCCATCACAGACGGCATGA
TGAACCTGAATCGCCAGCGGCATCAGCACCTTGTCGCCCTTGGGTATAATA
TTTGCCCATGGTGAAAACGGGGCGAAGAAGTTGTCCATATTGGCCACGT
TTAAATCAAACTGGTGAAACTCACCAGGGATTGGCTGAGACGAAAAAC
ATATTCTCAATAAACCCCTTTAGGGAAATAGGCCAGGTTTTACCGTAACA
CGCCACATCTTGCGAATATATGTGTAGAACTGCCGGAATCGTCGTGGT
ATTCACTCCAGAGCGATGAAAACGTTTCAGTTTGCTCATGGAAAACGGTG
TAACAAGGGTGAACACTATCCCATATCACCAGCTCACCGTCTTTCATTGC
CATACG

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PRM2 -> List

FIG. 10B

DNA sequence 3190 b.p. GCGCCCAATAG ... GGAACCGGAGA linear

Tuesday, February 25, 1992 3:02:24 AM

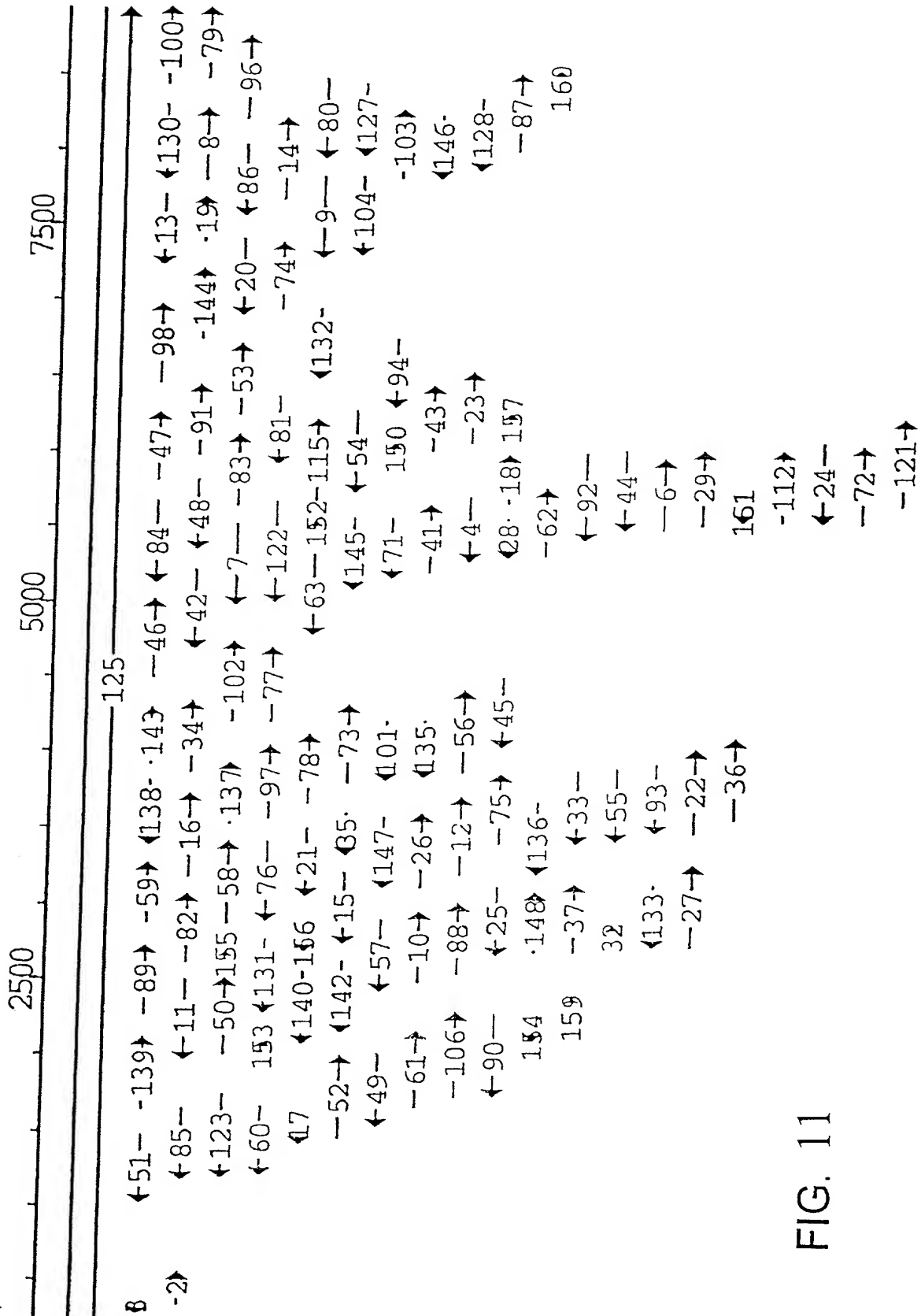
Read from ASCII/Citi2 file "puc18"

{ 431/432 is attTn7 insertion site R->L }

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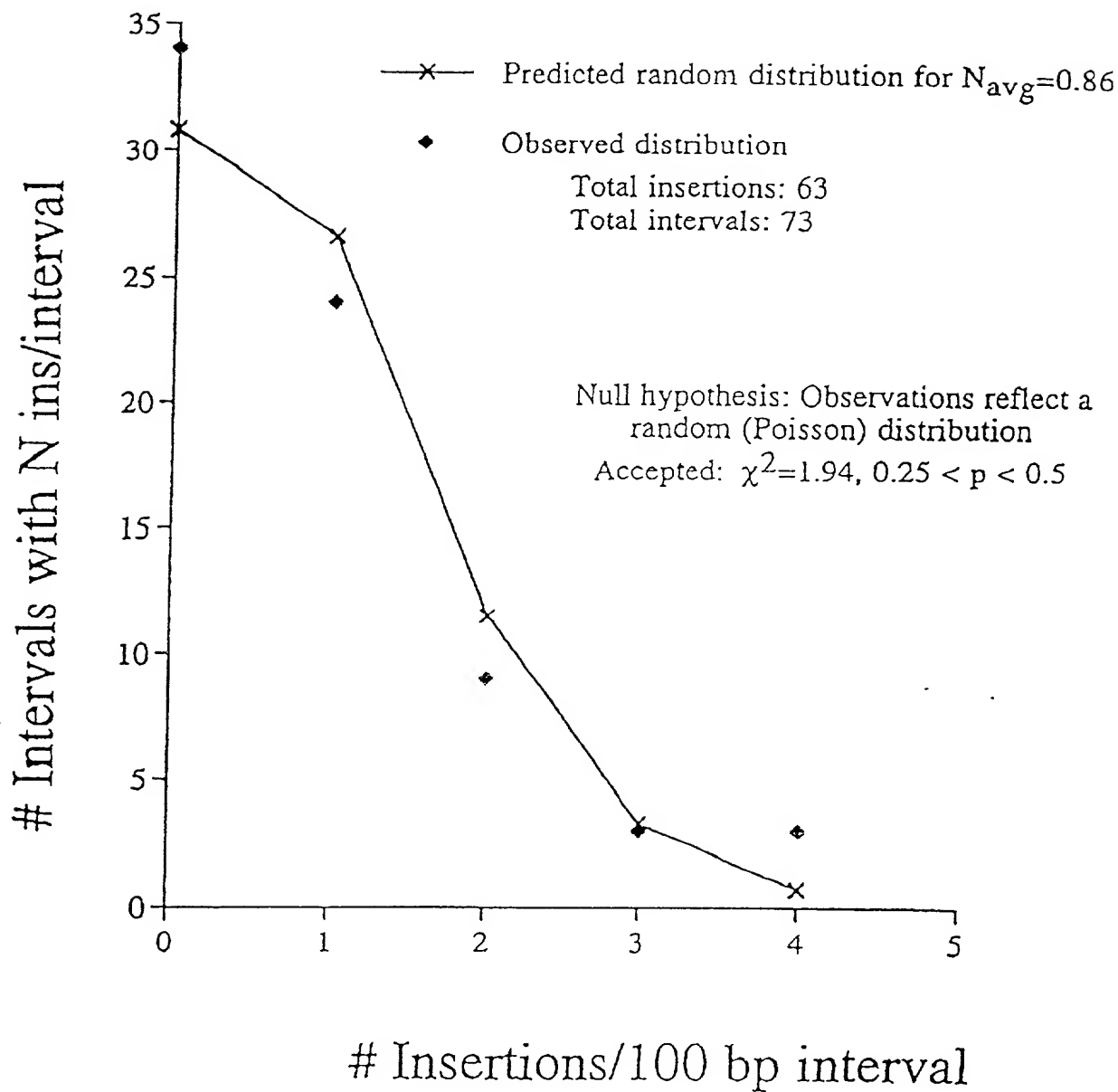
1	GCGCCCAATA	CGAAACCGC	CTCTCCCGC	CGGTGCGCG	ATTCATTAAAT	GCGAGTGGCA	CGACAGGTTT	CCCAGTGA	AAGCGGCGAG	TGAGCGCAAC	100
101	GCAATTAATG	TGAGTTAGCT	CACCTCATAG	GCACCCGAG	CTTTACACTT	TATGCTTCGG	CGCTGTAATG	TGCTGGAAT	TGTGAGCGAG	TACACTTTC	200
201	ACACAGGAAA	CAGTATGAC	CATGATTACG	AATTCAGCT	CGGTACCGG	GGATCTCTTA	GAGTCGAGAT	CCCGCAATCG	GAAGAGGTGA	TTGCACCGAT	300
301	CTTCTACACC	GTTCGGCTGC	TTACCATGTC	TTACCATGTC	CGCTGATCA	AAGGCACCGA	CGTTCACAG	CCGGTAAC	TGGCAAAATC	GGTTACGGTT	400
401	GAGTAATATA	TGGATGCCCT	CGGTAAGCGG	GGCAATTTTC	TTCTGTTTAT	GTTTWTATC	AAACATCTCG	CCAACTCCAT	GTGACAAACC	GTCATCTCG	500
501	GCTACTATTT	CTCTGTACA	GAATGAAAT	TTCTGTGAT	CTCTCTGTTA	TTAATGTTTG	TACTGACTG	AATATCAACG	CTTATTATAA	TCAGACTGAA	600
601	GACTTATCTC	TCCTGTGCTA	AAACTGTCA	TATTCCTTAC	ATATAACTGT	CACCTGTTTG	TCTTATTTTG	CTTGTCTAG	CCAAACAAAC	ATGCTTTATG	700
701	ATCTCTCCA	GGAGACATTA	TGAAGTTAT	CGGTACACC	GTGCGCACTG	TTGTGCGCG	GACTTATCG	ACCTGCAGC	ATCAAGCTT	GGCACTGGCC	800
801	CTCGTTTAC	AACCTGTGA	CTGGGAAAC	CCTGGGTTA	CCCACTTAA	TGCTCTTGA	GCACATCCC	CTTTGCCAG	CTGGGTAAT	AGCGAAGGCG	900
901	CAGCACCGA	TGCGCTTCC	CAACAGTTG	CGAGCTGAA	TGCGGAATGG	CGCTGATGC	GGTATTTTCT	CTTTACGCAT	CTGTSCGGA	TTTCACACCG	1000
1001	CAATATGTC	ACTCTCAGTA	CAATCTGCT	TGATGCGGA	TAGTTAGCC	AGCCCGACA	TTTTTACCTT	CCGCTGAGC	CGCTGAGC	GGCTGTCTG	1100
1101	CTCCCGGAT	CCGCTTACAG	CAACCTGCT	ACCGTCTCG	AGAGTTTCT	GTGTCAGAG	TTTTTACCTT	CATCACCGAA	ACGCGCGGA	CGAAAGGGCC	1200
1201	TGCTGATAG	CTTATTTTAA	TAGTTAATG	TCATGATTAAT	AAATGTTTCT	TAGACGTCAG	GTGGCACTTT	TCGCGGAAAT	GTGCGCGGA	CCCTTATTTG	1300
1301	TTTATTTTTC	TAAATACAT	CAATATGTA	TCCGCTCATG	AGACAATAAC	CCTGATAAAT	GGTTCAATTA	TATGAAATA	GGAGAGTAT	GAGTATTCAA	1400
1401	CATTTCCTG	TCGCGCTTAT	TCCCTTTTTC	GCGGANTTT	GCCTTCTCT	TTTTTCTCAC	CCAGAAAGC	TGTTGAAAGT	AAAAGATGCT	GAAGATCAGT	1500
1501	TGGTGTGAG	AGTGGGTTAC	ATCGAATGG	ATCTCAACAG	CGGTAAGATC	CTTGAGGTTT	TTGCGCCCGA	AGAACGTTT	CCAATGATGA	GCACTTTAA	1600
1601	AGTCTGCTA	TCTGGCGCG	TATTTATCCG	TATTGACGCC	GGGCAAGAGC	AACTCGGTG	CCGCATACAC	TATTTCTAGA	ATGACTTGGT	TGAGTACTCA	1700
1701	CCAGTCAAG	AAAGCACT	TACGANTGC	ATGACAGTAA	GAGAAATTAG	CAGTGTCTGC	ATAACCAATG	GTGATAACAC	TCGCGCCCAAC	TTACTTCTGA	1800
1801	CAACGATCG	AGACCCGAG	GAGTAACCG	CTTTTGTGA	CAACATGGGG	GATCATGTAA	CTGCGCTTGA	TCGTTGGGAA	CCGAGACTGA	ATGAAGCCAT	1900
1901	ACCAACGAC	GAGGTGACA	CCACCATGC	TGTAGCAATG	GCAACACAGT	TGCGCAAACT	ATTAACCTGC	GAACTACTTA	CTCTAGCTTC	CCGGCAACAA	2000
2001	TAAATAGAT	GGATGGAGC	GGATAAAGTT	GCAGACCCAC	TTCTGCGCTC	GGCCCTTCG	GCTGGCTGCT	TTATTTGCTGA	TAAATCTGGA	CCCGGTGAGC	2100
2101	GTGGTCTCG	CGTATCATTT	GCACACTGG	GGCCAGATGG	TAAGCCCTCC	CGTATCTGAG	TTATCTACCA	GACGGGGAGT	CAGCAACTTA	TGGATGAACG	2200
2201	AAATAGACAG	ATCGCTGAGA	TAGGTGCCCT	ACTGATTAAG	CATTTGTAAC	CAAAATCCCT	TAACTGAGT	TTTCTGTCCA	CTGAGCTGTA	GACCCGTAG	2300
2301	TTTAAATTA	AAAGATCTA	GGTGAAGATC	CTTTTGTATA	ATCTATGAC	CGCTTGTGAAA	CAAAAACAC	ACCGTACCA	CCGCTGGTTT	GTTCGCCGA	2400
2401	AAAAGATCAA	AGGATCTTCT	TGAGATCTCT	TTTTTCTGCG	CGTAACTGC	AGATACCAAA	TACTGTCTTT	CTAGTGTAGC	CGTAGTTAGG	CCACACTTC	2500
2501	TCAAGACTGA	CAAACCTTTT	TTCCGAAGGT	AACTGGCTTC	AGCAGAGCGC	TGCGCTGCT	GGCAGTGGG	ATAAGTCTG	TCCTACCGGG	TTGACTCAA	2600
2601	AAGAATCTG	TACATACCTC	GCTTGTCTAA	GGCTGTGTAAC	CCGCGGTTCG	AGCAGACAG	CCAGCTTGGG	TAGAACGACC	TACACCGAAC	TTGACTACCT	2700
2701	GACGATAGTT	ACCGGATAG	GGCGAGCGT	CGGGGTGAGC	GGGGGTTCG	TGCACACAG	CGAGTGGG	AGGTCGGA	CACAGAGCG	CACGAGGAG	2800
2801	ACAGCGTGAG	CTATGAGAA	GGCCACGCT	TCCCGAAGG	AGAAAGCGG	ACAGGTATCC	GGTAAGCGC	AGGTCGGA	CTGCTCAGG	GGCGGAGCC	2900
2901	CTTCCAGGG	GAAACGCTG	GTATCTTTAT	AGTCTGTGCG	GGTTTGCCTA	CCTCTGACTT	GAGCGTGGT	TTTTGTGATG	CTGTCTAGG	GGCGGAGCC	3000
3001	TATGGAATA	CGCCAGAAC	GCGGCTTTT	TACGTTCTCT	GGCTTTTTCG	TGGCTTTTTC	CTCACATGTT	CTTCTCTGCG	TTATCCCTCG	ATTCTGTGGA	3100
3101	TAAACGTTAT	ACCGCTTTG	AGTGAGCTGA	TACGCTCGC	CGCAGCGGAA	CGACCGAGCG	CAGCGAGTCA	GTGAGCGAGG	AACGGGAAGA		3190

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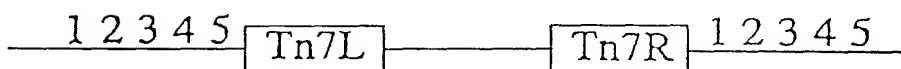
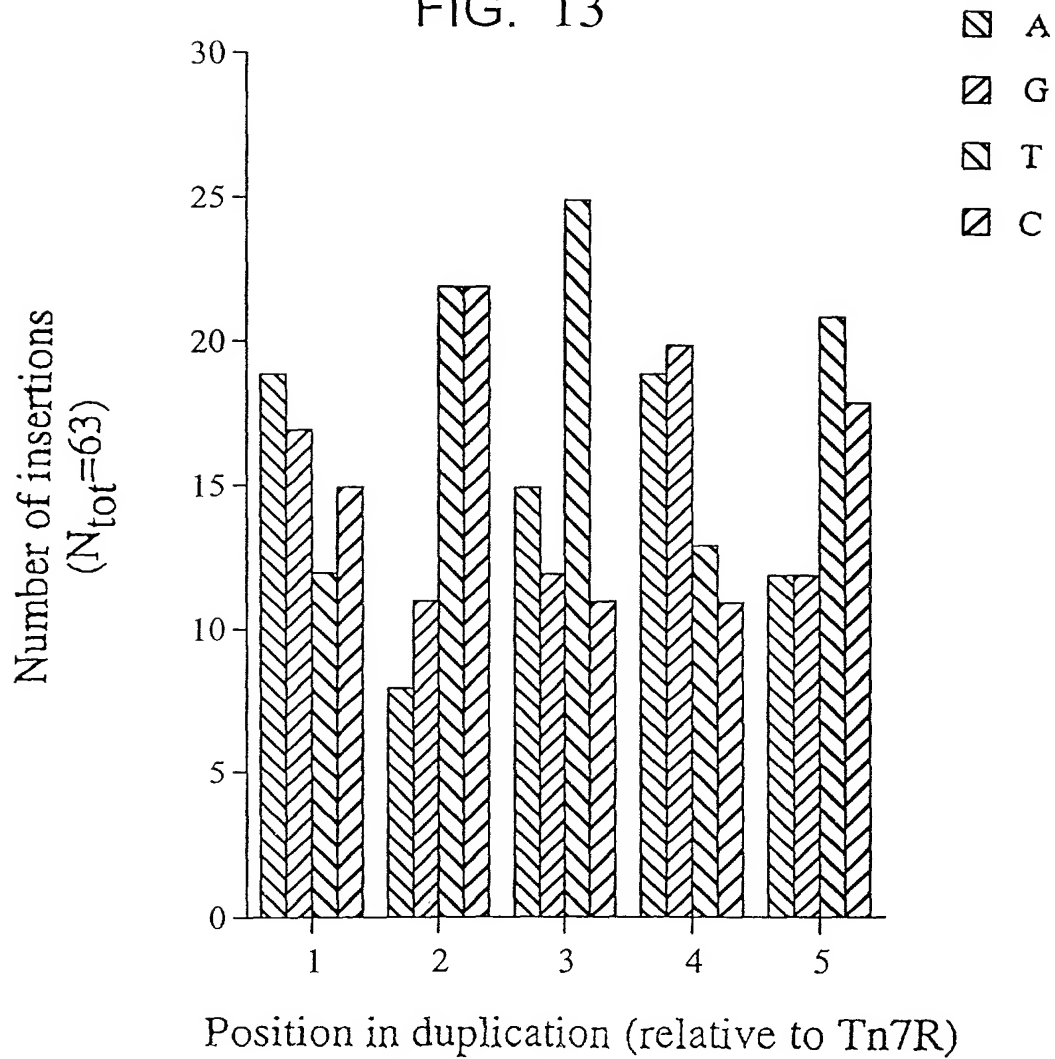
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FIG. 12



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FIG. 13



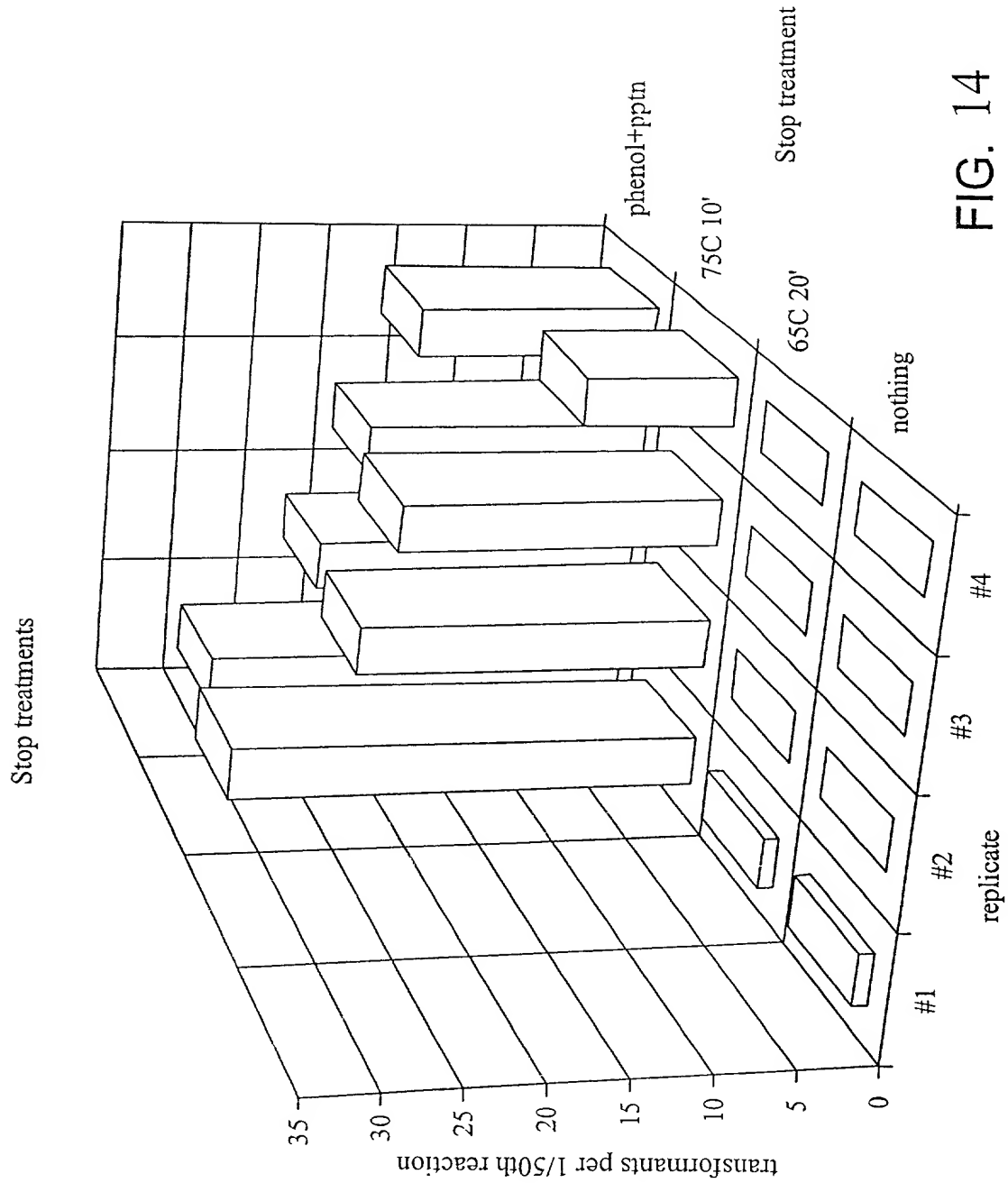
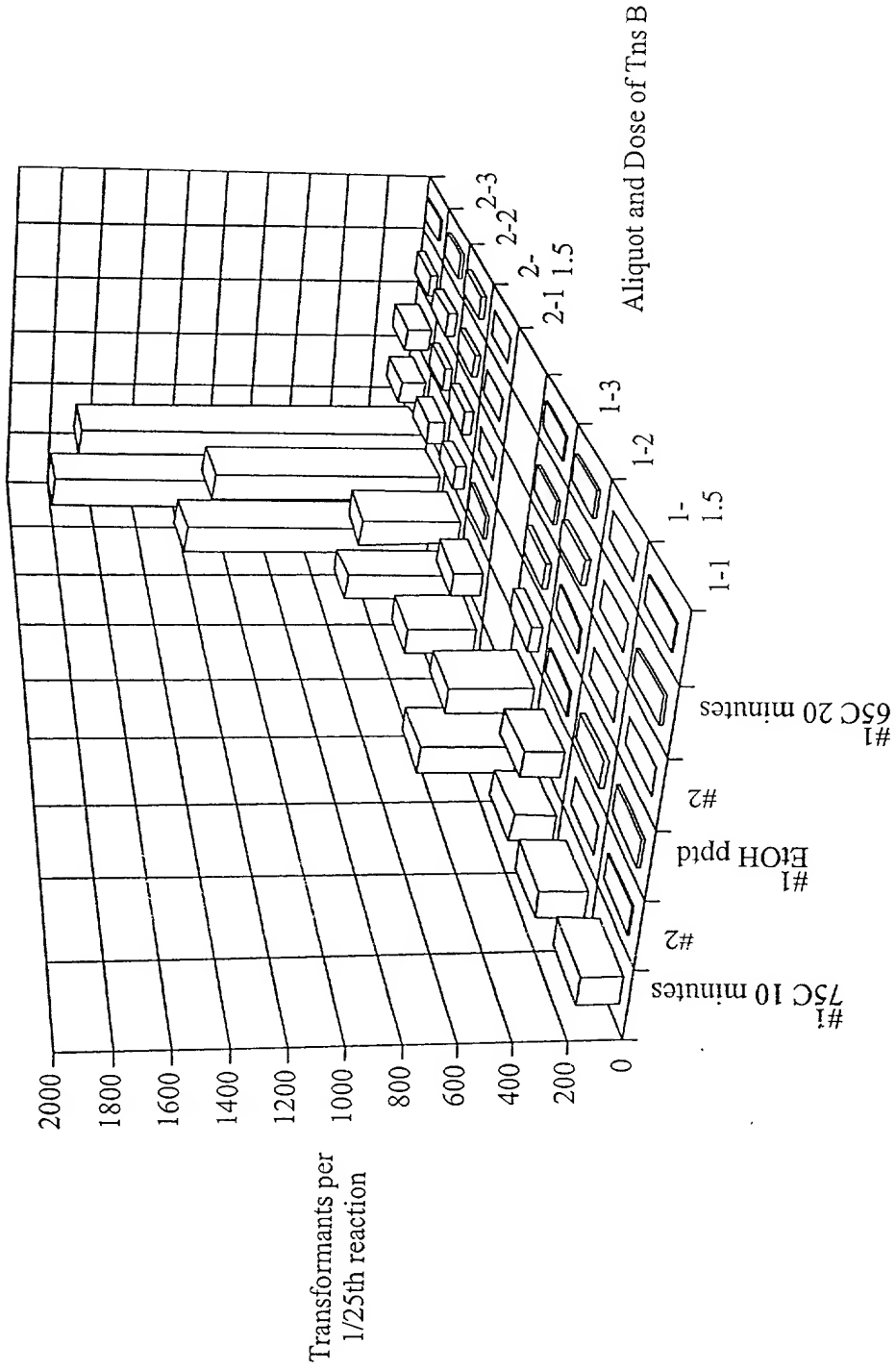


FIG. 14

Stop treatments at different doses and aliquots of TnsB



Stop treatment and replicate

FIG. 15

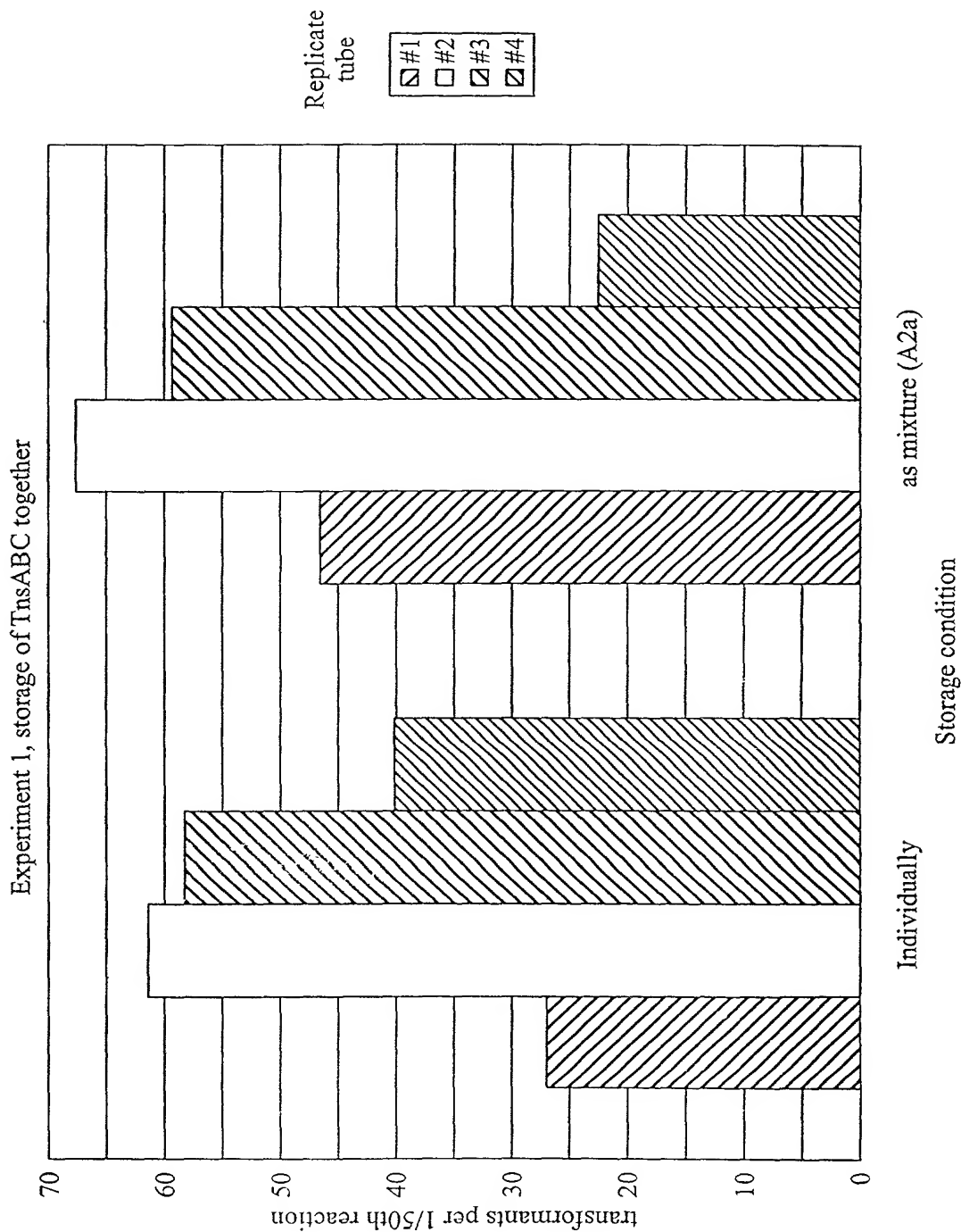


FIG. 16

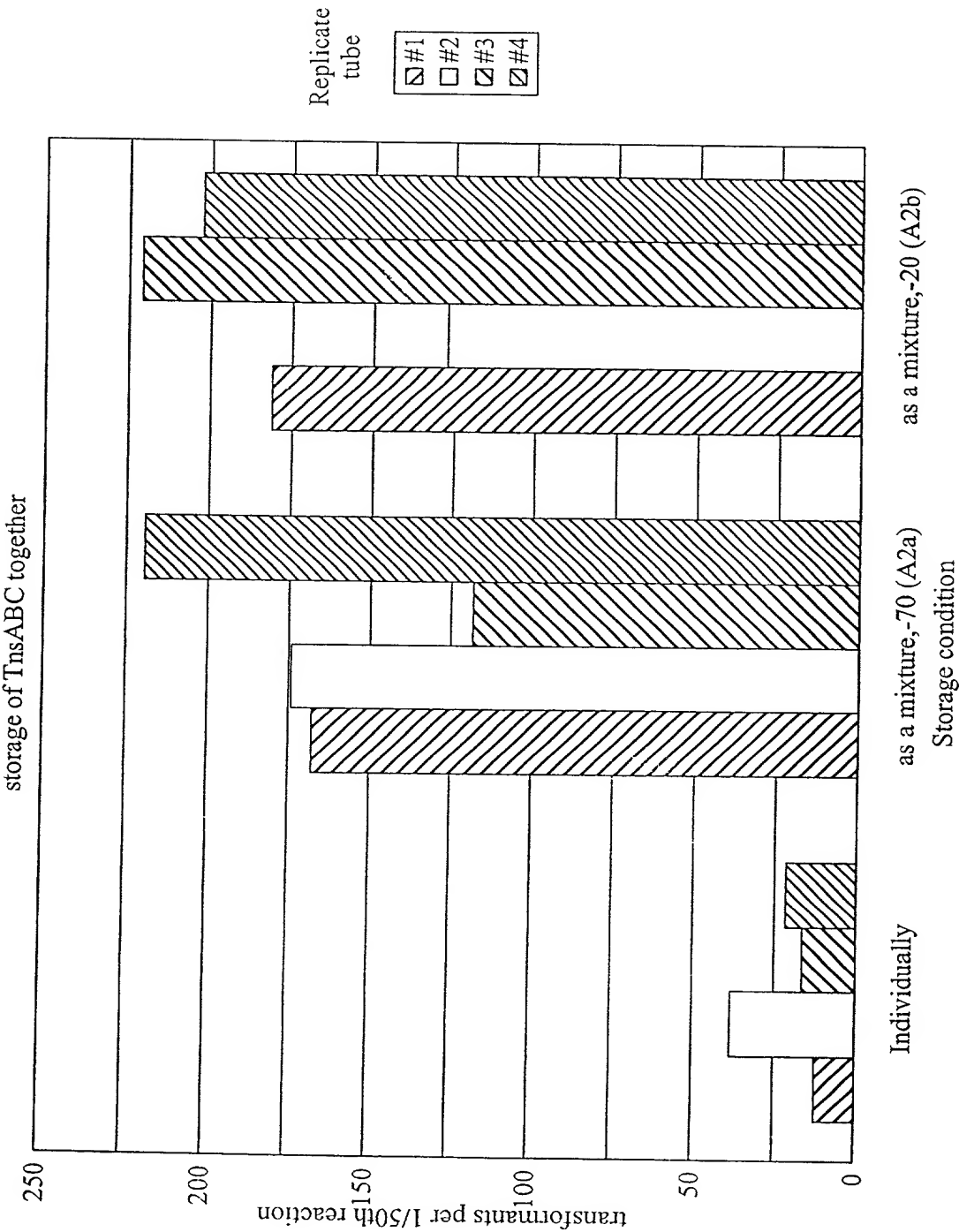


FIG. 17

DNA Strider™ 1.2 ### Monday, April 13, 1998 4:15:21 PM

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DNA sequence 1670 b.p. ATGAGTGTCTACC ... AGCAGGTAGCC linear

	10	20	30	40	50	60	70	80	90	100
1	ATGAGTGTCTA	CCGGATTCA	AGCAGTTTAT	CGTGTATACGG	GGTAGAGGC	TTATCGTGAT	AATCCTTTTA	TCGAGGCCCT	ACCACCATTA	CAAGATCAG 100
101	TGAATAGTGC	TGCATCACTG	AAATCCTCTT	TACAGCTTAC	TTCTCTTGAC	TTGCAAAAGT	CCCCTGTTAT	CAGAGCTCAT	ACCATTTGTC	GTATTCAGA 200
201	TGACTATTTT	CAGCCATTAG	GTACGCATTT	GCTACTAAGT	GAGGCTATTT	CGGTCAATGAT	TCGAGGTGGC	TACGTAGGCA	GAATCTCTAA	AACAGGAGAT 300
301	TTACAAAAGC	ATTTACAAA	TGGTTATGAG	CGTCTTCAAA	CGGAGAGATT	GGAGACATTT	CGCTTTGAGG	AGGCAGGATC	TACGGCACAA	AGCTTATTGT 400
401	TAAATTGGTG	TTCTGGTAGT	GGGAAGACGA	CCCTCTTTCA	TCGTATTCTTA	GCCACGTATC	CTCAGGTGAT	TTACCATCGT	GAATCAATG	TAGAGCAGGT 500
501	CGTGTATTG	AAATAGACT	GCTCGCATAA	TGGTTCGCTA	AAAGAAATCT	GCITGAATTT	TTTCAGAGCG	TTGGATCGAG	CCTTGGGCTC	GAATATGAG 600
601	CGTGTATTG	GCTTAAACG	TCATGGTATA	GAATCCATGT	TGGCTTTGAT	GTCCCAATAA	GCCCAATGCAC	ATGCTTTTAGG	GTGTTGGTT	ATTGATGAAA 700
701	TTACAGCATTT	AAGCCGCTCT	CGTTGGGTG	GAATCTCAAG	GAATGCTAAC	TTTTTTGTGA	CGATGGTGAA	TATTTATGGC	GTACCATGTA	TGTTGATGG 800
801	TACCCCTAAA	GCACGAGAGA	TTTTTGAGC	TGATTTGGG	TCTGCACGTA	GAGGGCAGG	GTGTTGAGCT	ATATTTCTGG	ATCCTATACA	ACAAACGCAA 900
901	CGTGAAGC	CCAATCAGA	GTGATCGCT	TTTACGGATA	ATCTTTGGCA	ATTACAGCTT	TTTACAACGCA	AAGATCGCT	GTTATCGGAT	GAGTCCGTG 1000
1001	ATGTGTGTA	TCAGCTAAGC	CAAGGAGTGA	TGGACATTGT	AGTAAACTTT	TTTGTACTCG	CTCAGCTCCG	TGCGTAGCT	TTAGGCAATG	AGCGTATTAC 1100
1101	CGTGTGTTA	TGCGGCAAG	TGTATCAAGA	TGAGTTAAAG	CCTGTGCACC	CCATGCTAGA	GGCATTAAGC	TCGGGTATCC	CAGAACGCAT	TGCTCGTTAT 1200
1201	TCTGATCTAG	TCGTTCCCGA	GATTGATATA	CGGTTAATCC	AACITCAGCT	AGATATCGCA	GGCATACAAG	AACAAACACC	AGAAGAAAA	GCCCTTCAAG 1300
1301	AGTTAGATAC	CGAAGATCAG	CGTCATTTAT	ATCTGATGCT	GAAACAGGAT	TACGATTCAA	GCCTGTTAAT	TCCCACTATT	AAAAAAGCGT	TTAGCCAGAA 1400
1401	TCCAACGATG	ACAAGACAAA	AGTTACTGCC	TCCTGTTTGT	CAGTGGTTGA	TGGAAGGCGA	AACGTTAGTG	TCAGAACTAG	AAAAGCCCTC	CAAGAGTAAA 1500
1501	AAGGTTTCGG	CTATAAAGGT	AGTCAAGGCC	AGCGACTGGG	ATAGCTTGCC	TGATACGGAT	TTACGTTATA	TCTATTCACA	ACGCCAACCT	GAAAAAACC 1600
1601	TGCATGACG	GTATAAAGGG	AAAGGGTAA	TAGTGGATAT	GGCGAGCTTA	TTTAAACAAG	CAGGTAGCC			1670

nucleotide sequence TnsC

FIG. 18A

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Tns protein C -> List

Protein sequence 556 a.a. MSATRIQAVYRD ... VDMASLKFQAGZ

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1	MSATRIQAVY	RDTGVEAYRD	NPFI	EALPPL	QESVNSAASL	KSSLQLTSSD	LQKSRVIRAH	TICRIPDDYF	QPLGTHLLLS	ERISVMIRGG	YVGRNPKTGD	100										
101	LQKHLQNGYE	RVQNGELET	RFEEARSTAQ	SLLIGCSGS	GKTTSLHRIL	ATYPQVIVYHR	ELNV	EQVVYL	KIDCSHNGSL	KEICLNFFRA	LDRALGSNVE	200										
201	RRYGLKRHCI	EIM	ALMSQI	ANAH	ALGLLV	IDEI	QHL	SRS	RS	SGSQ	EMLN	FFVTM	VNIIG	VF	MLIGTPK	AREI	FEADLR	SARR	GAGFGA	IFWD	PIQQTQ	300
301	RGKPIQEWIA	FTDNL	QQL	LQPK	DALLSD	EVRD	VWYELS	QGVN	DIVVKL	FVLA	QLRALA	LGNER	ITAGL	LRQV	QDELK	PVHP	MLEALR	SGIP	ERIARY	400		
401	SDLVVP	FEIDK	ELIQ	QLDIA	AIQE	QTPEEK	ALQE	LDTE	DQ	RHLV	MLKED	YDSS	LLIPTI	KKAF	SQNP	TM	TRQK	LLPLVL	QWME	GETV	500	
501	KVSAIKVVKP	SDWESLP	DTD	LRYT	YSQRQP	EKTM	HERLKG	KGVI	VD	MASL	FKQAGZ											556
	10	20	30	40	50	60	70	80	90	100												

amino acid sequence TnsC

FIG. 18B